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FROM

W. T. Walsh

March 21, 1902.

Commonwealth of Massachusetts, Supreme Judicial Court.

Hampden, ss.

HOLYOKE WATER POWER COMPANY,

PETITIONER,

v.

CITY OF HOLYOKE.

BEFORE

EVERETT C. BUMPUS, JAMES E. COTTER, AND
EDMUND K. TURNER,

Commissioners appointed by the Supreme Judicial Court.

APPEARANCES:

For Petitioner: FRANK P. GOULDING AND WILLIAM H. BROOKS.

For Respondent: NATHAN MATTHEWS, JR., ADDISON L. GREEN, AND
NATHAN P. AVERY.

VOL. VIII.

Nov. 20 TO Nov. 28, 1900.

BOSTON :

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H. T. Walsh

STENOGRAPHIC REPORT

BY

FRANK H. BURT, WM. L. HASKEL, AND E. L. DAVIS.

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THIRTY-SIXTH HEARING—Continued.

JOHN J. KIRKPATRICK, *sworn*.

Direct examination by Mr. GREEN.

Q. What is your full name? A. John J. Kirkpatrick.

Q. You live in Holyoke, Mr. Kirkpatrick? A. Yes, sir.

Q. And what are you by profession? A. A member of the firm of Ellsworth & Kirkpatrick, architects and civil engineers.

Q. And by profession are you a civil engineer? A. I am ; yes, sir.

Q. And of how many years experience? A. I started in when I was sixteen years old and I have been at it since—seventeen years.

Q. How long have you been a resident of the city of Holyoke? A. Ten or twelve years.

Q. And have you been city engineer there for some period of time? A. I was city engineer of Holyoke in 1896, 1897 and 1898.

Q. Are you familiar with the prices of building material and labor in Holyoke during 1897 and 1898, down to the present time? A. I was and I am.

Q. Whether or not you have been in the habit of estimating the cost of buildings? A. I do ; yes, sir.

Q. And have been? A. I have.

Q. Whether or not you have prepared an estimate showing the cost new of the buildings of the electric light and gas properties of the Holyoke Water Power Company in January, 1898? A. I have.

Q. And have you in connection with that schedule shown the depreciation on the buildings? A. I have.

Q. And the resulting value after the depreciation is deducted? A. Yes, sir.

Q. And the depreciation allowed by you is for what? A. Wear and tear upon the buildings.

Q. Have you these schedules with you? A. Yes, sir.

Q. You hand me a schedule which is entitled, "Estimate of the Value of Buildings at the Gas Works, Holyoke, Mass., by John J. Kirkpatrick, Holyoke." Is that your estimate that you just referred to? A. It is.

Q. And what do you say was the value after deducting the depreciation of those buildings? A. In the aggregate?

Q. Yes, of all. A. \$54,279.18.

Mr. BROOKS. Is this for the buildings?

Mr. GREEN. Yes. I desire to offer these in evidence, if your Honors please.

(Schedule of value of buildings at gas works marked "Exhibit 108, W. L. H.")

[EXHIBIT 108.]

[The paging of the original exhibit is given in brackets.]

ESTIMATE

OF

VALUE OF BUILDINGS AT THE GAS WORKS, HOLYOKE, MASS.

By John J. Kirkpatrick, Holyoke, Mass.

SUMMARY.

OFFICE	\$1,275.59
GASOMETER NO. 1	5,721.48
GASOMETER NO. 2	7,723.86
GASOMETER NO. 3, BRIDGE STREET	14,896.62
EXHAUST AND PURIFYING BUILDING	3,955.94
PASSAGE	202.07
BLACKSMITH SHOP	316.12
PIPE SHOP, LIME-ROOM BUILDING	2,718.12
VALVE AND WATER GAS METER ROOM	1,333.49
RETORT HOUSE	4,483.95
WATER GAS PLANT BUILDING	3,144.77
WATER GAS ENGINE ROOM	660.73
COAL SHED	4,234.69
STORE SHED	300.00
FIVE TANKS	3,311.75
	<u>\$54,279.18</u>

[2]

OFFICE BUILDING (AGE, FOURTEEN YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavating	90 cu. yds.	\$0.20	\$18.00			\$18.00
Back filling	18 cu. yds.	.10	1.80			1.80
Flaggers	175 sq. ft.	.18	31.50			31.50
Tar concrete	47 sq. yds.	.60	28.20			28.20
Brick	39 M.	9.50	370.50	10	\$37.05	333.45
Cut stone			52.00	14		44.72
Slate hearths		3.00	6.00	10	.60	5.40
Spruce timber	2,600 ft.	15.00	39.00	10	3.90	35.10
Spruce lining floor	600 ft.	14.00	8.40	28	2.35	6.05
Pine top floor	680 ft.	27.00	18.36	56	10.28	8.08
Pine roof boards	1,000 ft.	18.00	18.00	28	5.04	12.96
Sheathing	2,300 ft.	32.00	73.60	14	10.50	63.30

TUESDAY, NOV. 20, 1900.

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Base boards	116 ft.	\$40.00	\$4.64	21	\$0.97	\$3.67
Chair rail	100 ft.	.04	4.00	10	.40	3.60
Outside doors	2	6.50	13.00	21	2.73	10.27
Inside doors	7	4.00	28.00	21	5.88	22.12
Windows	8	5.00	40.00	21	8.40	31.60
Blinds	8	3.50	28.00	21	5.88	22.12
Ventilators	4	1.50	6.00			6.00
Hardware			25.00	56	14.00	11.00
Plumbing			75.00	10	7.50	67.50
Painting			75.00	16	12.00	63.00
Drains			12.50			12.50
Slate	8.5 sqs.	10.00	85.00	10	8.50	76.50
Gas piping, etc.			45.00	10	4.50	41.50
Mantels, etc.			40.00	10	4.00	36.00
Labor and nails			150.00			150.00
			\$1,296.50			\$1,145.94
Profit, 10%						129.65
						<u>\$1,275.59</u>

[3]

GASOMETER NO. 1 (AGE, THIRTY YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavating	3,500 cu. yds.	\$0.20	\$700.00			\$700.00
Back filling	400 cu. yds.	.10	40.00			40.00
Brick	440 M.	9.50	4,180.00	22	\$919.60	3,260.40
Cut stone			550.00	30	165.00	385.00
Spruce timber	10 M. ft.	15.00	150.00	22	33.00	117.00
Roof boards	5,200 ft.	14.00	72.80	60	43.68	29.12
Windows	8	3.50	28.00	45	12.60	15.40
Door	1	6.00	6.00	45	2.70	3.30
Slate	43 sqs.	10.00	430.00	22	94.60	335.40
Cupola			100.00	22	22.00	78.00
Iron work			104.25			104.25
Labor and nails			175.00			
			\$6,536.05			\$5,067.87
Profit, 10%						653.61
						<u>\$5,721.48</u>

[4]

GASOMETER NO. 2 (AGE, THIRTY YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavating	2,800 yds.	\$0.20	\$560.00			\$560.00
Back filling	600 yds.	.10	60.00			60.00

ESTIMATE OF GAS WORKS—J. J. KIRKPATRICK.

5

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Brick	630 M.	\$9.50	\$5,985.00	22	\$1,316.70	\$4,668.30
Flaggers	622 ft.	.18	111.96			111.96
Stone coping	277 ft.	1.00	277.00	30	83.10	193.90
Cut stone			30.00	30	9.00	21.00
Spruce timber	12 M. ft.	15.00	180.00	22	39.60	140.40
Roof boards	7,700 ft.	18.00	138.60	60	83.16	55.44
Door	1		6.00	45	2.70	3.30
Windows	23	4.00	92.00	45	41.40	50.60
Slate	65½ sqs.	10.00	655.00	22	144.10	510.90
Cupola			150.00	28	33.00	117.00
Hardware			30.00	20	6.00	24.00
Iron work			45.00			45.00
Labor and nails			300.00			300.00
			<u>\$8,620.56</u>			<u>\$6,861.80</u>
Profit, 10%						862.06
						<u><u>\$7,723.86</u></u>

[5]

BRIDGE STREET GASOMETER NO. 3 (AGE, FOURTEEN YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavation	6,265 cu. yds.	\$0.20	\$1,253.00			\$1,253.00
Back filling	3,380 cu. yds.	.10	338.00			338.00
Flaggers	960 sq. ft.	18%	172.80			172.80
Brick	988 M.	9.50	9,386.00	10	\$938.60	8,447.40
Cut stone			500.00	14	70.00	430.00
S. P. timber	1,620 ft.	22.00	35.64	10	3.56	32.08
N. P. timber	22,400 ft.	16.00	358.40	10	35.84	322.56
N. P. finish	800 ft.	18.00	14.40	14	2.01	12.39
Roof boards	15,600 ft.	18.00	280.80	28	78.62	202.18
Chestnut plank	5,000 ft.	18.00	90.00	10	9.00	81.00
Slate	108 sqs.	10.00	1,080.00	10	108.00	972.00
Windows	17	3.50	59.50	21	12.50	47.00
Windows	18	3.00	54.00	21	11.34	42.66
Doors	2	7.00	14.00	21	2.94	11.06
Window screens	35	1.00	35.00	10	3.50	31.50
Painting			75.00	16	12.00	63.00
Hardware			37.00	28	10.36	26.64
Fence	538 ft.	1.00	538.00	10	53.80	484.20
Labor and nails			450.00			450.00
			<u>\$14,771.54</u>			<u>\$13,419.47</u>
Profit, 10%						1,477.15
						<u><u>\$14,896.62</u></u>

[6]

EXHAUST AND PURIFYING BUILDING (AGE, THIRTY YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavating	700 cu. yds.	\$0.20	\$140.00			\$140.00
Back filling	135 cu. yds.	.10	13.50			13.50
Brick	275 M.	9.50	2,612.50	22	\$574.50	2,038.00
Cut stone			175.00	30	52.50	122.50
Spruce timber	18,600 ft.	15.00	279.00	22	61.38	217.62
S. P. timber	2,000 ft.	22.00	44.00	22	9.68	34.32
Sheathing	4,500 ft.	25.00	112.50	30	33.75	78.75
Roof boards	7,200 ft.	18.00	129.60	60	77.76	51.84
Doors	7 ft.	6.00	42.00	45	18.90	23.10
Windows	26 ft.	5.00	130.00	45	58.50	71.50
Slate	57½ ft.	10.00	575.00	22	126.50	448.50
Painting			50.00	48	24.00	26.00
Iron work			15.00			15.00
Hardware			15.00	20	3.00	12.00
Labor and nails			300.00			300.00
			<u>\$3,633.10</u>			<u>\$3,592.63</u>
Profit, 10%						363.31
						<u><u>\$3,955.94</u></u>

[7]

PASSAGEWAY (AGE, THIRTY YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavation	11 cu. yds.	\$0.20	\$2.20			\$2.20
Back filling	8 cu. yds.	.10	.80			.80
Brick	12,500	9.50	118.75	22	\$26.13	92.62
Cut stone			22.50	30	6.75	15.75
Spruce timber	420 ft.	15.00	6.30	22	1.38	4.92
Planking	515 ft.	15.00	7.73	22	1.70	6.03
Outside doors	2 ft.	6.00	12.00	45	5.40	6.60
Windows	2 ft.	3.25	6.50	45	2.93	3.57
Roofing	200 ft.	.06	12.00	10	1.20	9.80
Painting			5.00	24	1.20	3.80
Hardware			4.00	20	.80	3.20
Labor and nails			30.00			30.00
			<u>\$227.78</u>			<u>\$179.29</u>
Profit, 10%						22.78
						<u><u>\$202.07</u></u>

[8]

BLACKSMITH SHOP (AGE, FOURTEEN YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavating	16 cu. yds.	\$0.20	\$3.20			\$3.20
Back filling	10 cu. yds.	.10				1.00
Brick	21 M.	9.50	199.50	10	\$19.95	179.55
Cut stone			22.00	14	3.08	18.92
Spruce timber	500 ft.	15.00	7.50	10	.75	6.75
Roof boards	600 ft.	14.00	8.40	28	2.35	6.05
Door	1	6.00	6.00	21	1.26	4.74
Windows	4	3.25	13.00	21	2.73	10.27
Gravel roof	488	.05	24.40	5	1.22	23.18
Hardware			5.00	56	2.80	2.20
Painting			4.00	16	.64	3.36
Labor and nails			25.00			25.00
			\$319.00			\$284.22
Profit, 10%						31.90
						<u>\$316.12</u>

[9]

PIPE SHOP AND LIME-ROOM BUILDING (AGE, THIRTY YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavating	657	\$0.20	\$131.40			\$131.40
Back filling	192	.10	19.20			19.20
Brick	173 M.	9.50	1,643.50	22	\$361.57	1,281.93
Paving	56½ yds.	.50	28.25	10	2.83	25.42
Cut stone			150.00	30	45.00	105.00
Spruce timber	19 M.	15.00	285.00	22	62.70	222.30
Flooring	1,530 ft.	27.00	41.31	20	8.26	33.05
Sheathing	1,200 ft.	25.00	30.00	30	9.00	21.00
Doors	6	6.00	36.00	45	16.20	19.80
Windows	19	5.00	95.00	45	42.75	52.25
Slate	31¼ sqs.	10.00	312.50	22	68.75	243.75
Painting			40.00	48	19.20	20.80
Hardware			15.00	20	3.00	12.00
Labor and nails			225.00			225.00
			\$3,052.16			\$2,412.90
Profit, 10%						305.22
						<u>\$2,718.12</u>

[10]

VALVE AND WATER GAS METER ROOMS (AGE, TWO YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavating	356 cu. yds.	\$0.20	\$71.20			\$71.20
Back filling	13 cu. yds.	.10	1.30			1.30
Brick	74 M.	9.50	703.00	1½	\$10.55	692.45
Flagging	88 ft.	.18	15.84			15.84
Cut stone			54.40	2	.31	54.09
Spruce timber	310 ft.	15.00	4.65	1½	.07	4.58
S. P. timber	1,800 ft.	22.00	39.60	1½	.60	39.00
Spruce flooring	5,300 ft.	15.00	79.50	8	6.36	73.14
Top flooring	1,050 ft.	27.00	28.35	8	2.27	26.08
Doors	2	6.50	13.00	3	.39	12.61
Windows	9	3.00	27.00	3	.81	26.19
Stairs sheathed			25.00	2	.50	24.50
Slatting	5½ sqs.	10.00	55.00	1½	.82	54.18
Gravel roof	150 ft.	.05	7.50			7.50
Painting			10.00	16	1.60	8.40
Hardware			9.00			9.00
Labor and nails			90.00			90.00
			<u>\$1,234.34</u>			<u>\$1,210.06</u>
Profit, 10%						123.43
						<u><u>\$1,333.49</u></u>

[11]

RETORT HOUSE (AGE, EIGHTEEN YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavating	513 cu. yds.	\$0.20	\$102.60			\$102.60
Puddling	85 cu. yds.	.60	51.00			51.00
Back filling	45 cu. yds.	.10	4.50			4.50
Flaggers	1,134 sq. ft.	.18	204.12			204.12
Flag floor	1,080 sq. ft.	.22	237.60	28	\$66.52	171.08
Brick	203 M.	9.50	1,928.50	14	270.00	1,658.50
Cut stone			167.45	18	30.14	137.31
Iron work			1,240.00	25	310.00	930.00
Doors	5	18.00	90.00	25	22.50	67.50
Windows	16	7.25	116.00	25	29.00	87.00
Slate	53 sqs.	12.00	636.00	14	89.04	546.96
Painting			20.00	48	9.60	10.40
Hardware			15.00	72	10.80	4.20
Labor and nails			25.00			25.00
			<u>\$4,837.77</u>			<u>\$4,000.17</u>
Profit, 10%						483.78
						<u><u>\$4,483.95</u></u>

[12]

WATER GAS PLANT BUILDING (AGE, TWO YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavating	180 cu. yds.	\$0.20	\$36.00			\$36.00
Puddling	100 cu. yds.	.60	60.00			60.00
Back filling	60 cu. yds.	.10	6.00			6.00
Flaggers	483 sq. ft.	.18	86.94			86.94
Brick	126 M.	9.50	1,197.00	1½	\$17.95	1,179.05
Cut stone			168.00	2	3.36	164.64
Brick paving	22 M.	8.00	176.00	3	5.28	170.72
Iron work			460.00	3	13.80	446.20
Doors	2	6.00	12.00	3	.36	11.64
Doors	2	10.00	20.00	3	.60	19.40
Windows	21	7.00	147.00	3	4.41	142.59
Slating	39 sqs.	12.00	468.00	1½	7.00	461.00
Painting			25.00	16	4.00	21.00
Hardware			20.00	8	1.60	18.40
Labor and nails			30.00			30.00
			<u>\$2,911.94</u>			<u>\$2,853.58</u>
Profit, 10%						291.19
						<u><u>\$3,144.77</u></u>

[13]

WATER GAS ENGINE ROOM (AGE, TWO YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavating	30 cu. yds.	\$0.20	\$6.00			\$6.00
Back filling	10 cu. yds.	.10	1.00			1.00
Flaggers	170 sq. ft.	.18	30.60			30.60
Brick	33,600	9.50	319.20	1½	\$4.80	314.40
Cut stone			73.60	2	1.47	72.13
Brick paving	4,100	8.00	32.80	3	.98	31.82
S. P. timber	1,000 ft.	22.00	22.00	1½	.33	21.67
Roof boards	800 ft.	14.00	11.20	4	.45	10.75
Door	1		8.00	3	.24	7.76
Windows	6	6.00	36.00	3	1.08	34.92
Gravel roof	645 sq. ft.	.05	32.25	5	1.60	30.65
Painting			10.00	16	1.60	8.40
Hardware			8.00	8	.64	7.36
Labor and nails			22.00			22.00
			<u>\$612.65</u>			<u>\$599.46</u>
Profit, 10%						61.27
						<u><u>\$660.73</u></u>

[14]

COAL SHED (AGE, EIGHTEEN YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavating	500 cu. yds.	\$0.20	\$100.00			\$100.00
Back filling	100 cu. yds.	.10	10.00			10.00
Flaggers	1,120 sq. ft.	.18	201.60			201.60
Brick	269 M.	9.50	2,555.50	14	\$357.77	2,197.73
Cut stone			12.00	18	2.16	9.84
Spruce timber	23,500 ft.	15.00	352.50	14	49.35	303.15
Plank	1,300 ft.	15.00	19.50	14	2.73	16.77
Roof boards	11,800 ft.	14.00	165.20	36	59.47	105.73
Windows	7	3.00	21.00	25	5.25	15.75
Doors	2	1.50	3.00	25	.75	2.25
Exterior wood			71.30	18	12.83	58.47
Shingles			160.00	12	19.20	140.80
Gravel roof	4,080 sq. ft.	.05	204.00	10	20.40	183.60
Painting			40.00	48	19.20	20.80
Iron			10.00			10.00
Labor and nails			350.00			350.00
			<u>\$4,275.60</u>			<u>\$3,726.49</u>
Profit, 10%						427.56
						<u><u>\$4,154.05</u></u>

[15]

STORE SHED (AGE, EIGHTEEN YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavating	45 cu. yds.	\$0.20	\$9.00			\$9.00
Flaggers	240 sq. ft.	.18	43.20			43.20
Spruce timber	5,600 ft.	15.00	84.00	14	\$11.76	72.24
Hemlock boards	3,000 ft.	12.50	37.50	36	13.50	24.00
Concrete floor	200 yds.	.45	90.00	25	22.50	67.50
Spruce boards	1,000 ft.		12.00	25	3.00	9.00
Shingles			100.00	54	54.00	46.00
Labor and nails			100.00			100.00
			<u>\$475.70</u>			<u>\$370.94</u>
Profit, 10%						47.57
						<u>\$428.51</u>
Extra depreciation of 30%						128.51
						<u><u>\$300.00</u></u>

[16]

FIVE TANKS.

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value.</i>
Excavation	1,704 cu. yds.	\$0.20	\$340.80
Back filling	562 cu. yds.	.10	56.20
Concrete	153 cu. yds.	4.50	688.50
Brick	224 M.	9.50	2,128.00
Puddling	75 cu. yds.	.40	30.00
Planking	4,250 ft.	15.00	63.75
Iron			4.50
			<u>\$3,311.75</u>

Q. Have you prepared a schedule which estimates in a similar manner the buildings of the electric light plant? A. Yes, sir.

Q. And the water plant that is used in connection with it? A. The water plant buildings.

Q. The water plant buildings, I mean. A. Yes, sir.

Q. And what do you say, after deducting depreciation, was the value of those buildings in January, 1898? A. \$75,655.86.

(Schedule of value of buildings at electric light plant marked "Exhibit 109, W. L. H.")

TUESDAY, NOV. 20, 1900.

[EXHIBIT 109.]

ESTIMATE

OF

VALUE OF BUILDINGS AT THE ELECTRIC LIGHT STATION,
HOLYOKE, MASS.*By John J. Kirkpatrick, Holyoke, Mass.*

SUMMARY.

HEAD GATE	\$2,745.05
WHEEL PIT AND TAILRACE	34,034.50
WHEEL HOUSE	1,446.60
TUNNELS	909.93
DYNAMO BUILDING	18,028.65
STEAM-ENGINE BUILDING	8,687.00
BOILER HOUSE	4,044.45
CHIMNEY	5,759.68
	<u>\$75,655.86</u>

[2]

HEAD GATE.

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>
Excavation	1,000 cu. yds.	\$0.50	\$500.00
Canal wall removed	230 cu. yds.	.50	115.00
Puddling	140 cu. yds.	.50	70.00
Back filling	300 cu. yds.	.15	45.00
Canal wall relaid	70 cu. yds.	4.50	315.00
Masonry	154 cu. yds.	4.50	693.00
Brick	5 M. ft.	14.00	70.00
Sheet piling	8.3 M. ft.	17.00	141.10
Hemlock timber	3.9 M. ft.	15.00	58.50
White pine plank	1.1 M. ft.	25.00	27.50
Southern pine timber	4.6 M. ft.	24.00	110.40
Labor and spikes			350.00
			<u>\$2,495.50</u>
Profit, 10%			249.55
			<u>\$2,745.05</u>

[3]

WHEEL PIT AND TAILRACE.

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>
Excavation	23,600 cu. yds.	\$0.25	\$5,900.00
Canal wall removed	340 cu. yds.	.50	170.00
Puddling	1,200 cu. yds.	.50	600.00
Stone filling	50 cu. yds.	3.00	150.00
Back filling	14,600 cu. yds.	.15	2,190.00
Canal wall relaid	105 cu. yds.	4.50	472.50
Masonry	2,073 cu. yds.	4.50	9,328.50
Granite masonry	7.5 cu. yds.	45.00	337.50
Brick	801,300	9.50	7,612.35
Hemlock sills	61 M. ft.	15.00	915.00
Hemlock plank, 4-in.	87 M. ft.	15.00	1,305.00
Plank, 2-in. pine	30 M. ft.	24.00	720.00
Sheet piling	51 $\frac{1}{2}$ M. ft.	16.00	89.60
Wood centres			150.00
Labor and spikes			1,000.00
			<u>\$30,940.45</u>
Profit, 10%			3,094.05
			<u><u>\$34,034.50</u></u>

[4]

WHEEL HOUSE (AGE, EIGHT YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Brick	64,000 cu. yds.	\$9.50	\$608.00	6	\$36.48	\$571.52
Cut stone			55.00	8	4.40	50.60
Southern pine timber	8,300 ft.	22.00	182.60	6	10.96	171.64
Southern pine plank	3,200 ft.	22.00	70.40	16	11.26	59.14
Roof plank	7,500 ft.	22.00	165.00	16	26.40	138.60
Doors	2		25.00	12	2.50	22.50
Windows	5	4.00	20.00	12	2.40	17.60
Gravel roof	2,100 ft.	.05	105.00	40	42.00	63.00
Iron work			12.00			12.00
Painting and white-washing			25.00	64	16.00	9.00
Hardware			15.00	32	4.80	10.20
Labor and nails			175.00			175.00
			<u>\$1,458.00</u>			<u>\$1,300.80</u>
Profit, 10%						145.80
						<u><u>\$1,446.60</u></u>

[5]

TUNNELS.

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>
Excavation	385 cu. yds.	\$0.25	\$96.25
Back filling	104 cu. yds.	.10	10.40
Flaggers	597 sq. ft.	.18	107.46
Concrete floor	75 sq. yds.	.45	33.75
Brick	59,700	9.50	567.15
Southern pine timber	100 ft.	22.00	2.20
Wood centres			10.00
			<u>\$827.21</u>
Profit, 10%			82.72
			<u><u>\$909.93</u></u>

[6]

DYNAMO BUILDING (AGE, SEVEN YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavation	2,900 cu. yds.	\$0.25	\$725.00			\$725.00
Back filling	1,273 cu. yds.	.10	127.30			127.30
Flaggers	3,900 sq. ft.	.18	702.00			702.00
Concrete floor	587 sq. yds.	.45	264.15			264.15
Brick	633,000	9.50	6,013.50	5	\$300.68	5,712.82
Masonry	432 cu. yds.	4.25	1,836.00			1,836.00
Cut stone			370.00	7	25.90	344.10
Southern pine timber	31,000 ft.	22.00	682.00	5	34.10	647.90
Spruce plank	57,978 ft.	15.50	898.66	5	44.93	853.73
3-in. native pine	27,562 ft.	21.00	578.80	14	81.03	497.77
Sheathing pine	4,000 ft.	26.00	104.00	7	77.28	96.72
Top floor	16,700 ft.	28.00	467.60	28	130.93	336.67
Windows and frames	102		408.00	10	40.80	367.20
Wooden platforms	3		45.00	28	12.60	32.40
Iron work			2,115.00			2,115.00
Gravel roof	7,465 sq. ft.		373.25	37	130.64	242.61
Doors and frames	17		158.50	10	15.85	142.65
Painting and whitewash- ing			155.00	56	86.80	68.20
Plumbing			157.00	5	7.85	149.15
Hardware			60.00	28	16.80	43.20
Labor and nails			1,000.00			1,000.00
			<u>\$17,240.76</u>			<u>\$16,304.57</u>
Profit, 10%						1,724.08
						<u><u>\$18,028.65</u></u>

[7]

STEAM-ENGINE BUILDING (AGE, SEVEN YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavation	2,177 cu. yds.	\$0.25	\$544.25			\$544.25
Puddling	216 cu. yds.	.50	108.00			108.00
Back filling	300 cu. yds.	.10	30.00			30.00
Flaggers	1,700 sq. ft.	.18	306.00			306.00
Brick	354,500	9.50	3,367.75	5	\$168.39	3,199.36
Cut stone			1,194.00	7	83.58	1,110.42
Southern pine timber	9,608 ft.	22.00	211.38	5	10.57	200.81
Spruce plank	13,700 ft.	16.00	219.20	5	10.96	208.24
Pine roof plank	18,400 ft.	21.00	386.40	14	54.10	332.30
Top flooring	5,100 ft.	28.00	142.00	28	39.98	102.82
Finishing lumber	1,500 ft.	24.00	36.00	7	2.52	33.48
Platform			15.00	28	4.20	10.80
Windows and frames	18		103.50	10	10.35	93.15
Doors and frames	4		60.00	10	6.00	54.00
Cast and wrought iron			665.00			665.00
Slate	47½ sqs.	10.00	475.00	5	23.75	451.75
Painting			23.50	56	13.16	10.34
Hardware			24.30	5	1.22	23.08
Labor and nails			375.00			375.00
			<u>\$8,287.08</u>			<u>\$7,858.30</u>
Profit, 10%						828.70
						<u>\$8,687.00</u>

[8]

BOILER HOUSE (AGE, SEVEN YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavation	208 cu. yds.	\$0.25	\$52.00			\$52.00
Puddling	147 cu. yds.	.60	88.20			88.20
Back filling	22 cu. yds.	.10	2.20			2.20
Flaggers	1,700 sq. ft.	.20	340.00			340.00
Brick	190,900	9.50	1,813.55	5	\$90.68	1,722.87
Paving			118.40	10	11.84	106.56
Cement coping	42 ft.	.20	8.40	7	.59	7.81
Cut stone			46.00	7	3.22	42.78
Southern pine timber	1,300 ft.	22.00	28.60	5	1.43	27.17
Pine roof plank	12,540 ft.	21.00	263.34	14	36.87	226.47
Finishing lumber			15.00	7	1.05	13.95
Iron work			575.00			575.00
Gravel roof	2,850 ft.	.05	142.50	35	49.88	92.62
Doors and frames	5		62.00	10	6.20	55.80
Windows and frames	26		87.00	10	8.70	78.30

TUESDAY, NOV. 20, 1900.

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Painting			\$20.00	56	\$11.20	\$8.80
Hardware			35.00	28	9.80	25.20
Labor and nails			190.00			190.00
			<u>\$3,887.19</u>			<u>\$3,655.73</u>
Profit, 10%						388.72
						<u><u>\$4,044.45</u></u>

[9]

CHIMNEY (AGE, SEVEN YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavation	333 cu. yds.	\$0.25	\$83.25			\$83.25
Puddling	66 cu. yds.	.60	39.60			39.60
Back filling	90 cu. yds.	.10	9.00			9.00
Brick	387,000	10.00	3,870.00	5	\$193.50	3,676.50
Flaggers	766 sq. ft.	.18	137.88			137.88
Spruce piles	121	3.50	423.50			423.50
Masonry	165 cu. yds.	4.25	701.25			701.25
Iron work			147.50			147.50
			<u>\$5,411.98</u>			<u>\$5,218.48</u>
Profit, 10%						541.20
						<u><u>\$5,759.68</u></u>

Q. Take up your schedule first on the gas works, Mr. Kirkpatrick, and turn to page 2, which is the office building. Whether or not you have followed the same method in the other various buildings of the two plants that you have followed on this page? A. I believe I have.

The CHAIRMAN. Of course I understand that the page disappears when it gets into print. You say "page 2." I suppose you can identify it.

Mr. GREEN. I didn't know that. I am obliged for that suggestion. I would like to have that question stricken out and get it so that it will be in.

Q. So far as you recall now, Mr. Kirkpatrick, have you adopted the same method of valuation in all the other buildings that you have adopted in the case of the office building of the gas plant? A. As far as I recall; yes, sir.

Q. Now you have figured these quantities yourself? A. I have; yes, sir.

Q. Personally? A. Yes, sir.

Q. And the prices that you have placed there are what? What do they represent? A. The prices represent the result of conversations with several of our contractors, and my own experience of what prices were at that date.

Q. Prices new? For instance, the excavation at 20 cents. A. Under the heading "Price" is the price of such excavation at that time.

Q. Then you carry out a column, "The value new." By "value new" you mean the same as the cost new? You mean by that the same as cost new? A. Yes, sir.

Q. Then in some cases you have allowed a depreciation figured in percentage, have you not? A. Yes, sir.

Q. And then you figure up what that amounts to in depreciation, representing the value to you, as I should understand this, of the different parts? A. The present value of the different parts.

Q. After it is subtracted from the value new? A. In 1898.

Q. And the final column, representing the present value—by that you mean the value in 1898 of the parts of the build-

ing, and the total would represent the value of the whole building? A. Yes, sir.

Q. What do those prices represent in the price column? That is, are they wholesale prices or retail prices, so far as the labor and the material is concerned? A. They are a price which a contractor would expect to receive for doing a contract of that size. That is, I assume, for the purpose of estimating the value of these buildings, that the job is to be let in one contract; and that the excavation, back-filling, flaggers, and all materials for the different buildings, are to be lumped into one sum, and for the purpose of estimating later on, subdividing it.

Q. Whether or not in your opinion those prices were the going prices for material and labor and work in the erection of a plant of this size in January, 1898? A. They were the current prices, the general prices, of work being done of that character at that date.

Q. I notice at the bottom that you have added a profit of 10 per cent. Will you explain that? A. After we determine the value new, which is the sum of the cost of the different materials, I add a profit of 10 per cent. for the contractor for each of the buildings.

Q. And you figure that 10 per cent. upon which, Mr. Kirkpatrick,—the value new or the present value? A. Upon the value new.

Q. And add that to the present value? A. Yes, sir.

Q. Of the parts? A. Yes, sir.

Q. Taking the price of brick, I notice that you have, the sixth item down on this office building page, brick at \$9.50. That, I assume, is brick laid; and of what kind, cement or mortar, or how? A. It is brick at \$9.50 per thousand in cement mortar.

Q. Cement mortar? A. Yes, sir.

Q. Now whether or not to your knowledge, Mr. Kirkpatrick, brick of that kind are laid in that way, or were being laid for \$9.50 at this period, January, 1898?

Mr. BROOKS. It is a somewhat leading question.

Mr. GREEN. Very well; strike it out.

Q. What was the going price in Holyoke in January, 1898,

for brick of this kind, laid as this is laid? A. \$9.50 a thousand has been the price for laying a considerable amount of brick in cement mortar at the different mills.

Q. You say, laying a considerable amount. Will you explain just what you mean by that? A. I mean that the Holyoke contractors have laid brick work for \$9.50 a thousand during the year 1898 at the different mills, or several of the mills in Holyoke that I might name.

Q. You say they have done that. What I am getting at is this: Was that the current, going price, or was it an isolated price? A. I think it was the current, usual price.

Q. Do you know at what price Mr. Landers, who testified here in behalf of the Water Power Company, was laying brick of this character for during this period?

Mr. BROOKS. Wait a minute. If he knows.

Mr. GREEN. I asked him if he knew.

A. I do.

Q. Now, in order that we may be sure, do you know this of your own knowledge, or is it from passing upon his work by his bills, or do you know it simply from what somebody has told you? A. I have seen receipts that Mr. Landers has signed for doing brickwork at \$9.50.

Mr. BROOKS. Wait a moment; I object to this.

Mr. COTTER. That is not competent.

Mr. BROOKS. I ask to have the answer stricken out.

Q. Then do you know any more about it than from seeing certain books or data which you assumed were his? That is, did you have occasion to pass upon any of his bills? A. No, sir.

Q. Then I won't go into it. We have another witness who dealt directly with Mr. Landers. Take the excavation, in the first place, of this office building—and if you want to use any of these plans, Mr. Kirkpatrick, I will pass them to you. Will you explain to the Commission, using this building if it is convenient, or any other that you choose to designate, as an illustration, just how you figured the excavating? A. I took the length by the width by the depth, and found the product, which was in cubic feet, and divided by 27; that gives the number of cubic yards.

Q. Did you, in the case of the office building, allow for any slope? A. I believe I have allowed for slope in all buildings.

Q. In all cases? A. I think so.

Q. In the case of the flaggers, using this as an illustration, whether or not you accepted anyone's computations or figured the flaggers yourself? A. I believe I figured the entire quantities.

Q. And whether in any instance in these figures you have compared your work with the buildings there? That is, in other words, whether you have looked them over since you figured and compared your figures with the structures? A. I have; yes, sir.

Q. And for what purpose? A. For the purpose of determining whether I was right or the other fellow.

Q. That is, do your quantities differ from the quantities offered here by Mr. Sawin and Mr. Walther? A. They do in some respects. I do not recall exactly what they are or were at the present time.

Q. Whether or not you compared your quantities with the quantities of these gentlemen, that have been offered in this case? A. I did.

Q. On what basis did you proceed in estimating your depreciation? I will still use the office building as an illustration. I will take the very first item, which is brick. You say the value new is \$370.50, the depreciation 10 per cent., the amount depreciated \$37.05, and the present value \$333.45. Now why did you take 10 per cent. in that instance? A. I first assumed the life of the building with reference to the brick to be one hundred and thirty-two years, and consequently took the depreciation per annum at three-quarters of 1 per cent. I assume the age of the office building at fourteen years, and take three-quarters of fourteen, the nearest whole number to it, or 10 per cent.

Q. Why did you take it one hundred and thirty-two years rather than five hundred or ten or some other time? A. I believe that that is a fair life of the average building. My opinion was formed considerably by experiments made, or

reports made, rather, to the tenth annual meeting, and reported in the tenth annual meeting, of the Fire Underwriters' Association of the Northwest, which was held in Chicago, in September, 1879. Mr. A. W. Spaulding read a paper on the wear and tear of building materials, and tabulated the result. The figures represent the averages deduced from replies made by eighty-three builders, unconnected with fire insurance companies, in twenty-seven cities and towns, in eleven Western States.

Mr. BROOKS. That means the figures of Mr. Spaulding?

The WITNESS. Yes, sir. Those figures can be found on page 702 of the "Architects' and Builders' Pocketbook," by Kidder. Mr. Spaulding's paper gives the—

(Objected to.)

Q. Now, without reciting these tables, without giving the details of the tables or putting the table itself in, Mr. Kirkpatrick, will you proceed and tell how you got at this result?

A. Then I assume the life of the brick to be one hundred and thirty-two years, and the depreciation for each year of the existence of that building three-quarters of 1 per cent. on the brick work. On the plastering I assume a life of sixty years, on the painting a life of twelve years, on shingles a life of thirty-two years, on the cornice eighty years, on sheathing one hundred years, flooring twenty-six years, doors and windows complete sixty years, stairs and newels forty years, inside blinds sixty years, base sixty years,—the baseboard running round the floor; hardware twenty-six years, outside blinds thirty-two years, sills and first floor joists sixty years, dimension lumber one hundred and thirty-two years, slate one hundred and thirty-two years, gravel roof twenty years, plumbing one hundred and thirty-two years.

Mr. BROOKS. Have you got that all down?

The WITNESS. Only in my memorandum.

Mr. BROOKS. That is all right; then I can use that later on.

The WITNESS. Then I found what per cent. each one of those would amount to per year, and multiplied by the number of years that the building has been built. The product of that I consider the amount depreciated, and deduct that from the new value, and I receive the present value.

Q. Now outside of these tables which you say that you have considered, what else have you considered, if anything? A. I have consulted a number of books.

Q. Whether or not you have examined the buildings themselves? A. I have; yes, sir.

Q. You say you have consulted other books? A. Yes, sir.

Q. Bearing upon what question?

Mr. GOULDING. Is this the contents of the book?

Mr. GREEN. No; I simply ask him, bearing upon what question?

A. The construction of buildings and supervision of buildings, books pertaining to buildings, architectural books properly.

Q. Without taking up the other buildings—I presume I have asked this before—whether or not you followed that same rule with the various buildings? A. I have.

Q. How have you figured your materials? That is, take, for instance, your brick. Is that for brick alone or is it for brick laid? A. Brick laid.

Q. Well, how about the roof boards and the pine top floor and so on? Is that the flooring and the labor, or is it the material alone? A. That is the material alone. I put in the labor afterwards.

Q. Have you got your labor figured in at any place that you now recall—if there is any that you recall later you can tell us—but, as you recall it now, have you put your labor into the material in any case except the brick? I have put it into the excavating, back-filling, flaggers, tar concrete, brick work, stone work.

Q. Are there any others? A. Probably a number of small items.

Q. In the general item of lumber have you included labor? A. Only as a separate item which is at the foot of each page.

Q. How about your doors and windows and blinds? Whether those are the blinds and doors and windows painted and put up, or are they simply the plain blind or door or window? A. Those are all as they came from the shop, and to be erected, under the item of labor.

Q. And the labor is put in as the cost of doing the work?
A. Yes, sir.

Mr. BROOKS. That is, I understand, the labor is a separate estimation.

Q. I notice you have an item here for painting, \$75. A. In the office building, yes, sir.

Mr. GOULDING. What building?

Mr. GREEN. The office building. We are just talking about the office building, the gas works.

Q. Take Gasometer No. 1. That is on page 3, Mr. Brooks, of this schedule. The excavating for this gasometer you, figured in what way? A. I took the external diameter of the gasometer and added what I thought was proper for a slope, and thereby obtained the area, and multiplied it by the height, or depth.

Q. Now, where did you get that depth? A. From the plans.

Q. Do the plans show the depth of the gasometer? A. I believe they do.

Q. In all instances were you able to get at the actual depth of the foundations of these various buildings? A. Some of my computations were made from the actual depth, and others were not.

Q. Why were the others not? A. I understand there is no positive proof that any one knows the actual depth of some of the foundations.

Q. Well, where you could not ascertain the actual depth what did you do? A. I took them as I believed they ought to be.

Q. And by "ought to be" you mean what? A. Should have been under ordinary construction.

Q. Take the matter of the spruce lumber in the Gasometer No. 1, \$15 a thousand. Do you know just about how that price compared with the wholesale price of lumber? A. I do.

Q. How? A. I believe that is very near what the wholesale price of lumber was at that time.

Q. The iron work that is found in Gasometer No. 1, Mr. Kirkpatrick, did you compute that yourself? A. The iron

work? No, sir. The iron work computations were made by Mace Moulton, consulting engineer, of Springfield.

Q. By Mace Moulton. Does that apply to the iron work in the other gasometers? A. Throughout all the buildings.

Q. The iron work is by Mace Moulton? A. Yes, sir.

Q. Is there any other work besides that iron work that you had figured for you? A. I believe I made all the computations myself. I may have inquired as for prices from others.

Q. At what length did you inquire in Holyoke in regard to prices at which one could buy materials in large quantities, as large as these plants, in January, 1898? A. I inquired at considerable length. I obtained prices from three lumber yards, I think, for the prices of lumber and prices of stone work from—I believe the best stonemason in the city, and prices of brick work I obtained from local contractors, and most of those I knew to be the current prices.

Q. Can you tell, Mr. Kirkpatrick—I won't stop to ask you now, but consider it during the noon hour—just what buildings you had to estimate the foundations from what you considered good practice, and what you could take them from measurements? A. I might say that all those that the plans show the foundations, to run down some 15 feet or more in the ground. I believe under that head came the purifying house; I am not positive, but I think the pipe shop was in it; I think the water gas meter room or the station meter room, I don't know which. I do not recall any others just at this moment.

Q. Well, you say the plans there show the foundations running down some fifteen feet. Now, why did you not follow the plans in those instances? A. I don't know that there is anything that would go to show that those foundations run down as deeply as the plan called for them, and I don't know as there is anything to show that they would not; but I took them at what I assumed and believed there ought to be and what a man would do if he was going to build them now.

Q. Did you look up the question of the iron work in that Bridge-street holder? A. I did. I went down there with Mr. Davis, I think, and I referred that matter to Mr. Moulton.

Q. Were you able, you or any of you, when you were there

together, to find the iron that they have got set out in their Bridge-street holder? A. We were not.

Q. And did you look for it more than once? A. I believe I was at the Bridge-street holder three or four times on that mission.

Q. Whether or not in regard to the item of iron work you had the same difficulty in any other instances? A. I believe there are some places where I considered that the estimates included what I would call machinery—I mean now the estimates of Mr. Walther in respect to the water gas plant particularly. I think those estimates included the weight of the iron work for some of the machinery, and as I did not include the estimate of machinery in my estimate of value here, I omitted those items.

Q. Just what building was that,—the water gas plant? A. I believe so; yes, sir.

(Mr. Green asked for the volumes of testimony containing the report of the evidence offered by the petitioner in this case, and it was stated that the volumes which had been used at the recent hearings had been left in the room in which the last hearing was held.)

Q. Can you tell us in a general way, Mr. Kirkpatrick, where your differences in quantities came; that is, whether it was in foundation or in brick work or in lumber or where? A. I believe the principal difference is in the excavation, the back-filling and the brick work.

Q. As far as the gas plant is concerned? A. Yes, sir.

Q. Now take up the electric light station, if you please. Where do your differences come there in quantities, if you have any differences? A. I believe they are in the same materials.

Q. Take up first the head gate—

MR. GREEN. Well, I cannot take it up in the way I want to. If your Honor please, before I go on with this, I want those volumes of evidence. It is ten minutes of one, we might just as well adjourn, and I will try and be here promptly at two, because I want to compare them with Sawin's quantities or Walther's.

(Noon recess.)

AFTERNOON SESSION.

Mr. GREEN. Would the Commission like Volume 1, which contains the petitioner's quantities? I have a little handbook which I can use. (Giving the volume to the Commissioners.) I think it might aid a little in comparing the quantities used.

JOHN J. KIRKPATRICK, *resumed.*

Direct examination by Mr. GREEN, continued.

Q. Take the head-gate schedule of your electric light schedule, Mr. Kirkpatrick. I notice the first difference in excavation, that you have 1,000 cubic yards where Mr. Sawin's estimate calls for 1,085. As you recall it, are there any substantial differences in the quantities in the head gate? A. I don't remember that there are.

Q. I do not observe any substantial differences there, so I will not stop with that. Take the wheel-pit and tail-race, please. I notice that you have 23,600 cubic yards where Mr. Sawin has 32,333 cubic yards. A. I believe that is true.

Q. And I notice that in puddling you run about the same, that in back-filling he [Sawin] has 18,389 cubic yards where you have 14,600, and that in the brick work he has two items of 99,851 brick for the wheel-pit and 925,684 for the tail-race. I only observe one item in your case; that is, brick, 801,300. A. I have added the two together.

Q. What is that? A. I have added the brick work that I found in the wheel-pit and in the tail-race together, making 801,300.

Q. Now, do you know of any reason for so large a difference between your two figures in brick? A. I think that the engineers of the Water Power Company have included in their estimates of the brick work a portion of masonry that is shown as being intended for foundation walls of the Cabot-street mill extension. I think the plans indicate that they

intended to extend that mill and use a portion of that brick work for the foundations of the mill.

Q. Then you have taken for your quantity of brick work in the wheel-pit and tail-race not the quantities actually in there, but certain other quantities? A. Well, I have omitted anything that is shown on the plan that I thought was intended to be for other purposes.

Q. Is that, in your opinion, any more valuable for the purposes of its use with the amount of brick that they have in it than it would be if it was constructed with 801,300 brick? A. I do not see the necessity for any brick work on top of the arches of the tail-race.

Q. Now will you show the Commission, using the maps,— You are using now, Mr. Kirkpatrick, a set of plans which is simply marked “Introduced in court,” and can you describe the particular plan so that we can identify it? Is there any marking here? A. This is marked “Detail plan of wheel-pit and tail-race, electric light and power plant, Holyoke, Mass. Scale, $\frac{1}{4}$ inch = 1 foot. October, 1898. W. E. Sawin.”

Q. Now, will you show to the Commission where you think that the unnecessary brick is, the brick designed for the walls of the building? A. There is a note on this map: “East foundation wall of proposed Cabot-street mill extension.” There is a pier there or a wall 28 inches wide—I don’t know the height now exactly—with a saddle underneath it; another one that is 3 feet wide—or 66 piers, 3 feet wide; and a third brick cross-wall that is 16 inches wide; and down on the section through the tail-race is marked “South foundation wall of proposed Cabot-street mill extension, 276 feet 6 inches long.” On the same section are shown the brick piers that I have already spoken of.

Q. Well, apart from their use (to put this question another way), apart from their use in case the Cabot-street mill was extended, and taking their use simply as part of the tail-race, does this additional brick add anything to the value? A. Not in the least.

Q. Have you any explanation to offer for the difference in the quantity of excavation as computed by Mr. Sawin and by

yourself? A. I only submit my quantity of the excavation as I found it.

Q. I meant if there was anything that you would see in the way that was constructed to explain it. Do you recall any other large difference in the wheel-pit and tail-race other than that item of brick? A. Brick and excavation; I think that is all.

Q. In the wheel house do you recall any large differences? A. No, sir, unless in the roof planking. I think I have considerable more than they have.

Q. In the what? A. Roof planking.

Q. You have more there. I assume (I think it was included in a question that I asked you this morning) that the iron work throughout all these buildings was estimated by Mr. Moulton? A. Yes, sir.

Q. Or somebody in his employ. If there are no large differences in the wheel house we will pass on to the tunnels. I notice that your brick work is estimated in quantity as 59,700 brick, and in Mr. Sawin's it is 86,265 brick. (Vol. I, p. 288.) Is there anything in the construction of this plant that explains that difference? A. Yes, sir.

Q. What is that? Describe the sheet of this particular set of plans that you used, so that we can identify it. A. The sheet is a plan of the shafting, principally, showing the location of it with reference to the wheels particularly. The tunnels are shown on a transverse section through the tunnel and a longitudinal section through the tunnel. In the longitudinal section is shown a testing flume penstock, 9 feet in diameter. On each side of that penstock (I believe the penstock runs easterly and westerly), and on the northerly side of that penstock, and on the southerly side of it, runs a wall 20 inches thick down to a considerable depth, about 8 feet, I should judge, below the floor of the tunnels proper. In my opinion those two walls were put up to protect that penstock. I have not figured in my estimate the brick work which is contained in those two walls, or in the arch that runs over the penstock.

Q. Does the brick thus used add anything to the value of the tunnels? A. No, sir.

Q. Is there any other large difference in the quantities in your tunnels? A. In the excavation. I allow nothing for the excavating for those two walls, which makes a difference. I don't remember what it is.

Q. It is given in his schedule at 584 cubic yards, and yours at 384. In getting at these results (I will interject a question now), in getting at these results, have you used any plans? A. Yes, sir.

Q. What plans? A. I have used these plans, and copies of them, and plans prepared for the gas works under my direction.

Mr. BROOKS. By the gas works?

Mr. GREEN. For the gas works.

The WITNESS. Plans prepared for the gas works, under my direction, by Mr. Ellsworth; and also plans prepared by the Company.

Q. Speaking of the plans prepared by the Company, do you mean the plans that are here in this case? A. Yes, sir.

Mr. GOULDING. How are they different from these plans?

Mr. GREEN. Which plans different?

Mr. GOULDING. He began by saying he used these plans. Now were these prepared by the Company?

Mr. GREEN. Yes, these were prepared by the Company.

Q. These were the Company's plans; that is what I mean; the plans that are now before you are the Company's plans? A. Yes, sir.

Q. Offered in evidence here by the Company? A. Yes, sir.

Q. Then you say you used some other plans of the gas works? A. They were prepared by Mr. Ellsworth under my direction when I was city engineer.

Q. Whether or not you made measurements yourself? A. No, sir, I did not, not any measurements of the buildings. That is, not measurements of the buildings for the purpose of determining quantities. I made measurements of the buildings for other purposes.

Q. We are now upon the electric plant. Whether you used

any other plans than the Holyoke Water Power plans in getting at these quantities in the electric plant? A. Not in the electric plant.

Q. Now, turning to the dynamo building, I notice that your quantities in excavation are 2900 cubic yards, and Mr. Sawin's quantity is 5,041 cubic yards. Is there anything in the plans that explains that difference? A. I know of no reason why there should be that difference.

The CHAIRMAN. What is the difference? I ought to have attended —

Mr. GREEN. It is 2100 cubic yards, practically.

Q. Now, do you recall any large differences there outside of excavation? A. It is so long ago I do not recall much about it.

Q. I will run it down, if you will pardon me. (Comparing figures.) Well, unless you recall something, I see as I glance through it no large differences. There are some differences along, item by item. Take the steam engine building; do you recall any large differences in the steam engine building? A. No, sir; I do not.

Q. I notice that you estimate your brick together at \$9.50 a thousand. How is that brick laid, all of it, as you have estimated it? A. Some of the brick work is laid in cement mortar and some is laid in lime mortar. I have lumped the whole job.

Q. What do you allow independently — independently of these figures here, I mean — for cement work and for mortar work? A. Well, there is usually about \$1 a thousand difference.

Q. If I understand you rightly, that would be \$9 for one and \$10 for the other? A. Yes, or ten and eleven, or twelve and thirteen, or thirteen and fourteen, whatever it may be. If the price of cement is \$10, then the other is usually \$9.

Q. Take the boiler house; I notice a difference again in the excavation. Mr. Sawin's estimate calls for 742 cubic yards, and yours 208. Is there anything in the plans, or anything in the way the building is constructed which would explain that difference? A. No, sir.

Q. Mr. Sawin's estimate of brick work calls for 44,912 brick in cement mortar, and 13,400 brick for the boiler foundations, and 146,061 brick in lime, and 19,300 brick in paving. What is the total of your brick? A. 190,900. I don't include anything for boiler foundations.

Q. Well, leaving out the boiler foundations, if I have added correctly, Mr. Sawin's estimate calls for 210,212 brick as compared with your 190,900; and then you say that you did not allow for the foundations. Now, why do you not allow for brick for the foundations of the boiler? A. Foundations for all machinery I have left to the experts upon machinery to estimate with their values, because it is part of the machinery and not a part of the building.

Q. Do you recall any other large differences in your boiler house quantities? A. No, sir; I do not.

Q. Well, now, take the chimney. You allow for 333 cubic yards of excavation, and Mr. Sawin estimates 1,261 cubic yards. Is there anything in the construction as shown by the plans of the Company which explains that difference? A. No, sir.

Q. To account for it in any way? A. I could not find any such amount as he estimated.

Q. There is a difference in the amount of brick computed. Mr. Sawin's estimate calls for 393,000, in round numbers, of brick, while your computation is 387,000, a matter of 6,000 brick difference. I don't know whether that is a large or a small difference on a stack of that size? A. I am inclined to think that I made a mistake on that. Looking over my notes last night I could not see where I had figured in the amount of brick that is behind the chimney cap.

Q. Yes. Then, Mr. Kirkpatrick, if that is so — A. I said "last night." I meant Saturday.

Q. Saturday? A. Yes, sir.

Q. If that is so, will you state to us, before you close your testimony, or can you now tell us, how much that would add to your figures? A. I think it would add about that 6,000.

Q. 6,000 brick? A. 6,000 brick.

Q. At \$10? A. Yes, sir.

Q. It would make \$60 difference? A. Yes, sir.

Q. So that you would increase your figures by that \$60?
A. I believe I would.

Q. Let us run through the gas works now for a noment to see if there is any other place. Have you your estimate now of the brick work? A. I have the original copy of the schedule.

Q. Well, now, take the office.

Mr. BROOKS. What is this going back to, the gas?

Mr. GREEN. Yes, page 151 of Volume 1.

Q. Are there any large differences that you recall in the office building? A. I don't think there is anything of very much consequence there.

Q. I notice that your excavation calls for —

Mr. GOULDING. A little louder, Mr. Kirkpatrick, if you will.

Q. I notice in your estimate you call for 90 cubic yards of excavating against 81 of Mr. Sawin's, and 18 cubic yards of back-filling against his 17½? A. Excuse me, those are Mr. Walther's, I guess. Well, I put those in as I got them.

Mr. BROOKS. As you "got them"?

The WITNESS. As I determined them, calculated them.

Q. Did you calculate these from the Company's plans or from the plans prepared by Mr. Ellsworth? A. I have used both. I think the two plans are practically the same.

Q. Well, if there is no large difference, pass to Gasometer No. 1. I notice there that you have 3,500 cubic yards of excavating as against Mr. Walther's 5,000 cubic yards, and 400 cubic yards of back-filling as against his 2,000. Is there anything in the plans or in the way that you computed to explain that difference? A. I don't know where there should be any such difference. I computed what I thought there ought to be allowed.

The CHAIRMAN. Has he prepared any table or anything to show the comparative difference, so as to save the trouble of asking him in detail, so that he could tell the whole thing?

Mr. GREEN. We have one which we can offer to-morrow, but we haven't it here to-day. I wanted to say to the Court that we had to change our arrangements at a late hour, owing to the illness of Mr. Steadman, whom we expected to go on

with, so that Mr. Kirkpatrick had to go on with the papers as he had them, and two or three things are not here. We have a schedule, and we will offer it to-morrow probably.

Q. In Gasometer No. 2. are there any large differences that occur to you, as you look over your figures? A. I don't remember them now, Mr. Green. There may be, but I don't remember them.

Q. Then if you don't recall, I will rest with the general question: Is there any large difference in the gas plant that occurs to you outside of your differences in excavating and back-filling? A. And brick work.

Q. Anywhere throughout the gas works? .

Mr. BROOKS. Of course there is a very large difference in Gasometer No. 2.

Mr. GREEN. In Gasometer No. 2?

Q. Let us take Gasometer No. 2. The brick that is called for by Mr. Walther's is 634,756, and your brick is 630,000.

Mr. BROOKS. I was calling special attention to the excavation.

Mr. GREEN. Yes.

Q. Well, now, is there anything about the plans or your method of computation to explain the differences there in the excavating or in the brick work? A. Merely a difference of engineers as to what should be allowed.

Q. Should be allowed where? A. Well, what it is proper to allow for excavation.

Q. Without going over it any further in detail, you have prepared, have you not, Mr. Kirkpatrick, a schedule showing the difference, item by item, throughout the gas and electric plants? A. Yes, sir.

Mr. GREEN. I will offer that later as soon as I can get it.

Q. Mr. Kirkpatrick, are you familiar with the location selected by Mr. Davis for his gas works?

Mr. BROOKS. Not selected by him.

Mr. GREEN. Well, selected by Mr. Kirkpatrick, if you will. A. I am.

Q. Upon which Mr. Davis has erected his plant? A. Yes, sir.

Q. Are you familiar with the locality where this lot is?
A. Yes, sir.

Q. And the lot selected for this purpose is known by what name?
A. South Holyoke city lot.

By Mr. GOULDING.

Q. What?
A. South Holyoke city lot.

By Mr. GREEN.

Q. In Mr. Davis's blue print there, is there any error in the naming of the streets or the location of the streets?
A. I think there is; yes, sir.

Q. In what respect?
A. I believe he has got Berkshire Street at the wrong end of the map. It should be—

By the CHAIRMAN.

Q. On the opposite side?
A. On the opposite end.

By Mr. GREEN.

Q. Do you recall the name of the street that is where Berkshire Street is marked on his blue print?
A. There is no street there. That lot adjacent to this lot is owned by the Germania Mills. The next street is about one hundred feet from this lot. South Street is the street to the north.

Q. But does that—barring the error in the name of the street,—does that plan correctly represent the size and shape of the city lot?
A. Very nearly, I think; yes, sir.

Q. Have you anything there by which you can gauge it to see?
A. I think I have. This is a plan of the city lot (indicating), and below the Germania Mill property on Berkshire Street.

Q. When you say "this" you refer to another plan that you have just produced?
A. Yes, sir.

Q. And does the plan that you have just produced represent the sewer that crosses this lot?
A. It shows the location of both sewers across the lot.

Q. Do you know how deeply under ground those sewers are put?

Mr. BROOKS. Do you offer that plan?

Mr. GREEN. I shall in just a moment.

A. I know, nearly ; yes, sir. The plan shows very nearly ; yes, sir.

Q. Will you tell us? A. It runs from five feet on the southerly end to about nine feet on the northerly end.

By the CHAIRMAN.

Q. What does? A. The sewer beneath the ground.

By Mr. GOULDING.

Q. That is the distance beneath the ground? A. Yes, sir; from five to nine feet.

By Mr. GREEN.

Q. Is this plan prepared by you? A. Plan prepared by me when I was city engineer.

Q. Drawn to a scale? A. Yes, sir.

Q. And does it correctly represent the dimensions of this city lot, and the location of the sewer? A. I believe it does.

Mr. GREEN. I offer it.

Mr. GOULDING. I would like to see it.

(The plan referred to was shown to Mr. Brooks and Mr. Goulding.)

Mr. BROOKS. Where is any scale on this plan?

The CHAIRMAN. What is the scale, Mr. Witness?

By Mr. BROOKS.

Q. What is the scale of this plan? A. I don't know. I don't know whether it is marked or not. I have not seen that map for a year.

Mr. GREEN. The scale is not put on it, as a matter of fact. The dimensions are put on.

By Mr. GREEN.

Q. And could you give us a scale from the dimensions you have there? A. Yes, sir.

Q. I will ask you to do so in a moment.

By Mr. BROOKS.

Q. No railroad shows on this plan? A. No, sir.

Mr. GREEN. I will come to that in just a moment.

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FROM

W. T. Walsh

March 21, 1902.

Commonwealth of Massachusetts, Supreme Judicial Court.

Hampden, ss.

HOLYOKE WATER POWER COMPANY,

PETITIONER,

v.

CITY OF HOLYOKE.

BEFORE

EVERETT C. BUMPUS, JAMES E. COTTER, AND
EDMUND K. TURNER,

Commissioners appointed by the Supreme Judicial Court.

APPEARANCES:

For Petitioner: FRANK P. GOULDING AND WILLIAM H. BROOKS.

For Respondent: NATHAN MATTHEWS, JR., ADDISON L. GREEN, AND
NATHAN P. AVERY.

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H. T. Walsh

STENOGRAPHIC REPORT

BY

FRANK H. BURT, WM. L. HASKEL, AND E. L. DAVIS.

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Boston, Wednesday, Nov. 21, 1900.

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JOHN J. KIRKPATRICK	52	54

THIRTY-EIGHTH HEARING.

Boston, Thursday, Nov. 22, 1900.

<i>Testimony of</i>	<i>Cross.</i>	<i>Re-direct.</i>	<i>Re-cross.</i>
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FORTIETH HEARING.

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THIRTY-SIXTH HEARING — Continued.

JOHN J. KIRKPATRICK, *sworn*.

Direct examination by Mr. GREEN.

Q. What is your full name? A. John J. Kirkpatrick.

Q. You live in Holyoke, Mr. Kirkpatrick? A. Yes, sir.

Q. And what are you by profession? A. A member of the firm of Ellsworth & Kirkpatrick, architects and civil engineers.

Q. And by profession are you a civil engineer? A. I am ; yes, sir.

Q. And of how many years experience? A. I started in when I was sixteen years old and I have been at it since — seventeen years.

Q. How long have you been a resident of the city of Holyoke? A. Ten or twelve years.

Q. And have you been city engineer there for some period of time? A. I was city engineer of Holyoke in 1896, 1897 and 1898.

Q. Are you familiar with the prices of building material and labor in Holyoke during 1897 and 1898, down to the present time? A. I was and I am.

Q. Whether or not you have been in the habit of estimating the cost of buildings? A. I do ; yes, sir.

Q. And have been? A. I have.

Q. Whether or not you have prepared an estimate showing the cost new of the buildings of the electric light and gas properties of the Holyoke Water Power Company in January, 1898? A. I have.

Q. And have you in connection with that schedule shown the depreciation on the buildings? A. I have.

Q. And the resulting value after the depreciation is deducted? A. Yes, sir.

Q. And the depreciation allowed by you is for what? A. Wear and tear upon the buildings.

Q. Have you these schedules with you? A. Yes, sir.

Q. You hand me a schedule which is entitled, "Estimate of the Value of Buildings at the Gas Works, Holyoke, Mass., by John J. Kirkpatrick, Holyoke." Is that your estimate that you just referred to? A. It is.

Q. And what do you say was the value after deducting the depreciation of those buildings? A. In the aggregate?

Q. Yes, of all. A. \$54,279.18.

Mr. BROOKS. Is this for the buildings?

Mr. GREEN. Yes. I desire to offer these in evidence, if your Honors please.

(Schedule of value of buildings at gas works marked "Exhibit 108, W. L. H.")

[EXHIBIT 108.]

[The paging of the original exhibit is given in brackets.]

ESTIMATE

OF

VALUE OF BUILDINGS AT THE GAS WORKS, HOLYOKE, MASS.

By John J. Kirkpatrick, Holyoke, Mass.

SUMMARY.

OFFICE	\$1,275.59
GASOMETER NO. 1	5,721.48
GASOMETER NO. 2	7,723.86
GASOMETER NO. 3, BRIDGE STREET	14,896.62
EXHAUST AND PURIFYING BUILDING	3,955.94
PASSAGE	202.07
BLACKSMITH SHOP	316.12
PIPE SHOP, LIME-ROOM BUILDING	2,718.12
VALVE AND WATER GAS METER ROOM	1,333.49
RETORT HOUSE	4,483.95
WATER GAS PLANT BUILDING	3,144.77
WATER GAS ENGINE ROOM	660.73
COAL SHED	4,234.69
STORE SHED	300.00
FIVE TANKS	3,311.75
	<u>\$54,279.18</u>

[2]

OFFICE BUILDING (AGE, FOURTEEN YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavating	90 cu. yds.	\$0.20	\$18.00			\$18.00
Back filling	18 cu. yds.	.10	1.80			1.80
Flaggers	175 sq. ft.	.18	31.50			31.50
Tar concrete	47 sq. yds.	.60	28.20			28.20
Brick	39 M.	9.50	370.50	10	\$37.05	333.45
Cut stone			52.00	14		44.72
Slate hearths		3.00	6.00	10	.60	5.40
Spruce timber	2,600 ft.	15.00	39.00	10	3.90	35.10
Spruce lining floor	600 ft.	14.00	8.40	28	2.35	6.05
Pine top floor	680 ft.	27.00	18.36	56	10.28	8.08
Pine roof boards	1,000 ft.	18.00	18.00	28	5.04	12.96
Sheathing	2,300 ft.	32.00	73.60	14	10.30	63.30

TUESDAY, NOV. 20, 1900.

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Base boards	116 ft.	\$40.00	\$4.64	21	\$0.97	\$3.67
Chair rail	100 ft.	.04	4.00	10	.40	3.60
Outside doors	2	6.50	13.00	21	2.73	10.27
Inside doors	7	4.00	28.00	21	5.88	22.12
Windows	8	5.00	40.00	21	8.40	31.60
Blinds	8	3.50	28.00	21	5.88	22.12
Ventilators	4	1.50	6.00			6.00
Hardware			25.00	56	14.00	11.00
Plumbing			75.00	10	7.50	67.50
Painting			75.00	16	12.00	63.00
Drains			12.50			12.50
Slate	8.5 sqs.	10.00	85.00	10	8.50	76.50
Gas piping, etc.			45.00	10	4.50	41.50
Mantels, etc.			40.00	10	4.00	36.00
Labor and nails			150.00			150.00
			<u>\$1,296.50</u>			<u>\$1,145.94</u>
Profit, 10%						129.65
						<u>\$1,275.59</u>

[3]

GASOMETER NO. 1 (AGE, THIRTY YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavating	3,500 cu. yds.	\$0.20	\$700.00			\$700.00
Back filling	400 cu. yds.	.10	40.00			40.00
Brick	440 M.	9.50	4,180.00	22	\$919.60	3,260.40
Cut stone			550.00	30	165.00	385.00
Spruce timber	10 M. ft.	15.00	150.00	22	33.00	117.00
Roof boards	5,200 ft.	14.00	72.80	60	43.68	29.12
Windows	8	3.50	28.00	45	12.60	15.40
Door	1	6.00	6.00	45	2.70	3.30
Slate	43 sqs.	10.00	430.00	22	94.60	335.40
Cupola			100.00	22	22.00	78.00
Iron work			104.25			104.25
Labor and nails			175.00			
			<u>\$6,536.05</u>			<u>\$5,067.87</u>
Profit, 10%						653.61
						<u>\$5,721.48</u>

[4]

GASOMETER NO. 2 (AGE, THIRTY YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavating	2,800 yds.	\$0.20	\$560.00			\$560.00
Back filling	600 yds.	.10	60.00			60.00

ESTIMATE OF GAS WORKS—J. J. KIRKPATRICK.

5

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Brick	630 M.	\$9.50	\$5,985.00	22	\$1,316.70	\$4,668.30
Flaggers	622 ft.	.18	111.96			111.96
Stone coping	277 ft.	1.00	277.00	30	83.10	193.90
Cut stone			30.00	30	9.00	21.00
Spruce timber	12 M. ft.	15.00	180.00	22	39.60	140.40
Roof boards	7,700 ft.	18.00	138.60	60	83.16	55.44
Door	1		6.00	45	2.70	3.30
Windows	23	4.00	92.00	45	41.40	50.60
Slate	65½ sqs.	10.00	655.00	22	144.10	510.90
Cupola			150.00	22	33.00	117.00
Hardware			30.00	20	6.00	24.00
Iron work			45.00			45.00
Labor and nails			300.00			300.00
			<u>\$8,620.56</u>			<u>\$6,861.80</u>
Profit, 10%						862.06
						<u><u>\$7,723.86</u></u>

[5]

BRIDGE STREET GASOMETER NO. 3 (AGE, FOURTEEN YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavation	6,265 cu. yds.	\$0.20	\$1,253.00			\$1,253.00
Back filling	3,380 cu. yds.	.10	338.00			338.00
Flaggers	960 sq. ft.	18%	172.80			172.80
Brick	988 M.	9.50	9,386.00	10	\$938.60	8,447.40
Cut stone			500.00	14	70.00	430.00
S. P. timber	1,620 ft.	22.00	35.64	10	3.56	32.08
N. P. timber	22,400 ft.	16.00	358.40	10	35.84	322.56
N. P. finish	800 ft.	18.00	14.40	14	2.01	12.39
Roof boards	15,600 ft.	18.00	280.80	28	78.62	202.18
Chestnut plank	5,000 ft.	18.00	90.00	10	9.00	81.00
Slate	108 sqs.	10.00	1,080.00	10	108.00	972.00
Windows	17	3.50	59.50	21	12.50	47.00
Windows	18	3.00	54.00	21	11.34	42.66
Doors	2	7.00	14.00	21	2.94	11.06
Window screens	35	1.00	35.00	10	3.50	31.50
Painting			75.00	16	12.00	63.00
Hardware			37.00	28	10.36	26.64
Fence	538 ft.	1.00	538.00	10	53.80	484.20
Labor and nails			450.00			450.00
			<u>\$14,771.54</u>			<u>\$13,419.47</u>
Profit, 10%						1,477.15
						<u><u>\$14,896.62</u></u>

[6]

EXHAUST AND PURIFYING BUILDING (AGE, THIRTY YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavating	700 cu. yds.	\$0.20	\$140.00			\$140.00
Back filling	135 cu. yds.	.10	13.50			13.50
Brick	275 M.	9.50	2,612.50	22	\$574.50	2,038.00
Cut stone			175.00	30	52.50	122.50
Spruce timber	18,600 ft.	15.00	279.00	22	61.38	217.62
S. P. timber	2,000 ft.	22.00	44.00	22	9.68	34.32
Sheathing	4,500 ft.	25.00	112.50	30	33.75	78.75
Roof boards	7,200 ft.	18.00	129.60	60	77.76	51.84
Doors	7 ft.	6.00	42.00	45	18.90	23.10
Windows	26 ft.	5.00	130.00	45	58.50	71.50
Slate	57½ ft.	10.00	575.00	22	126.50	448.50
Painting			50.00	48	24.00	26.00
Iron work			15.00			15.00
Hardware			15.00	20	3.00	12.00
Labor and nails			300.00			300.00
			\$3,633.10			\$3,592.63
Profit, 10%						363.31
						<u>\$3,955.94</u>

[7]

PASSAGEWAY (AGE, THIRTY YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavation	11 cu. yds.	\$0.20	\$2.20			\$2.20
Back filling	8 cu. yds.	.10	.80			.80
Brick	12,500	9.50	118.75	22	\$26.13	92.62
Cut stone			22.50	30	6.75	15.75
Spruce timber	420 ft.	15.00	6.30	22	1.38	4.92
Planking	515 ft.	15.00	7.73	22	1.70	6.03
Outside doors	2 ft.	6.00	12.00	45	5.40	6.60
Windows	2 ft.	3.25	6.50	45	2.93	3.57
Roofing	200 ft.	.06	12.00	10	1.20	9.80
Painting			5.00	24	1.20	3.80
Hardware			4.00	20	.80	3.20
Labor and nails			30.00			30.00
			\$227.78			\$179.29
Profit, 10%						22.78
						<u>\$202.07</u>

[8]

BLACKSMITH SHOP (AGE, FOURTEEN YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavating	16 cu. yds.	\$0.20	\$3.20			\$3.20
Back filling	10 cu. yds.	.10				1.00
Brick	21 M.	9.50	199.50	10	\$19.95	179.55
Cut stone			22.00	14	3.08	18.92
Spruce timber	500 ft.	15.00	7.50	10	.75	6.75
Roof boards	600 ft.	14.00	8.40	28	2.35	6.05
Door	1	6.00	6.00	21	1.26	4.74
Windows	4	3.25	13.00	21	2.73	10.27
Gravel roof	488	.05	24.40	5	1.22	23.18
Hardware			5.00	56	2.80	2.20
Painting			4.00	16	.64	3.36
Labor and nails			25.00			25.00
			\$319.00			\$284.22
Profit, 10%						31.90
						<u>\$316.12</u>

[9]

PIPE SHOP AND LIME-ROOM BUILDING (AGE, THIRTY YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavating	657	\$0.20	\$131.40			\$131.40
Back filling	192	.10	19.20			19.20
Brick	173 M.	9.50	1,643.50	22	\$361.57	1,281.93
Paving	56½ yds.	.50	28.25	10	2.83	25.42
Cut stone			150.00	30	45.00	105.00
Spruce timber	19 M.	15.00	285.00	22	62.70	222.30
Flooring	1,530 ft.	27.00	41.31	20	8.26	33.05
Sheathing	1,200 ft.	25.00	30.00	30	9.00	21.00
Doors	6	6.00	36.00	45	16.20	19.80
Windows	19	5.00	95.00	45	42.75	52.25
Slate	31¼ sqs.	10.00	312.50	22	68.75	243.75
Painting			40.00	48	19.20	20.80
Hardware			15.00	20	3.00	12.00
Labor and nails			225.00			225.00
			\$3,052.16			\$2,412.90
Profit, 10%						305.22
						<u>\$2,718.12</u>

[10]

VALVE AND WATER GAS METER ROOMS (AGE, TWO YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavating	356 cu. yds.	\$0.20	\$71.20			\$71.20
Back filling	13 cu. yds.	.10	1.30			1.30
Brick	74 M.	9.50	703.00	1½	\$10.55	692.45
Flagging	88 ft.	.18	15.84			15.84
Cut stone			54.40	2	.31	54.09
Spruce timber	310 ft.	15.00	4.65	1½	.07	4.58
S. P. timber	1,800 ft.	22.00	39.60	1½	.60	39.00
Spruce flooring	5,300 ft.	15.00	79.50	8	6.36	73.14
Top flooring	1,050 ft.	27.00	28.35	8	2.27	26.08
Doors	2	6.50	13.00	3	.39	12.61
Windows	9	3.00	27.00	3	.81	26.19
Stairs sheathed			25.00	2	.50	24.50
Slating	5½ sqs.	10.00	55.00	1½	.82	54.18
Gravel roof	150 ft.	.05	7.50			7.50
Painting			10.00	16	1.60	8.40
Hardware			9.00			9.00
Labor and nails			90.00			90.00
			<u>\$1,234.34</u>			<u>\$1,210.06</u>
Profit, 10%						123.43
						<u>\$1,333.49</u>

[11]

RETORT HOUSE (AGE, EIGHTEEN YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavating	513 cu. yds.	\$0.20	\$102.60			\$102.60
Puddling	85 cu. yds.	.60	51.00			51.00
Back filling	45 cu. yds.	.10	4.50			4.50
Flaggers	1,134 sq. ft.	.18	204.12			204.12
Flag floor	1,080 sq. ft.	.22	237.60	28	\$66.52	171.08
Brick	203 M.	9.50	1,928.50	14	270.00	1,658.50
Cut stone			167.45	18	30.14	137.31
Iron work			1,240.00	25	310.00	930.00
Doors	5	18.00	90.00	25	22.50	67.50
Windows	16	7.25	116.00	25	29.00	87.00
Slate	53 sqs.	12.00	636.00	14	89.04	546.96
Painting			22.00	48	9.60	10.40
Hardware			15.00	72	10.80	4.20
Labor and nails			25.00			25.00
			<u>\$4,837.77</u>			<u>\$4,000.17</u>
Profit, 10%						483.78
						<u>\$4,483.95</u>

[12]

WATER GAS PLANT BUILDING (AGE, TWO YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavating	180 cu. yds.	\$0.20	\$36.00			\$36.00
Puddling	100 cu. yds.	.60	60.00			60.00
Back filling	60 cu. yds.	.10	6.00			6.00
Flaggers	483 sq. ft.	.18	86.94			86.94
Brick	126 M.	9.50	1,197.00	1½	\$17.95	1,179.05
Cut stone			168.00	2	3.36	164.64
Brick paving	22 M.	8.00	176.00	3	5.28	170.72
Iron work			460.00	3	13.80	446.20
Doors	2	6.00	12.00	3	.36	11.64
Doors	2	10.00	20.00	3	.60	19.40
Windows	21	7.00	147.00	3	4.41	142.59
Slating	39 sqs.	12.00	468.00	1½	7.00	461.00
Painting			25.00	16	4.00	21.00
Hardware			20.00	8	1.60	18.40
Labor and nails			30.00			30.00
			<u>\$2,911.94</u>			<u>\$2,853.58</u>
Profit, 10%						291.19
						<u><u>\$3,144.77</u></u>

[13]

WATER GAS ENGINE ROOM (AGE, TWO YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavating	30 cu. yds.	\$0.20	\$6.00			\$6.00
Back filling	10 cu. yds.	.10	1.00			1.00
Flaggers	170 sq. ft.	.18	30.60			30.60
Brick	33,600	9.50	319.20	1½	\$4.80	314.40
Cut stone			73.60	2	1.47	72.13
Brick paving	4,100	8.00	32.80	3	.98	31.82
S. P. timber	1,000 ft.	22.00	22.00	1½	.33	21.67
Roof boards	800 ft.	14.00	11.20	4	.45	10.75
Door	1		8.00	3	.24	7.76
Windows	6	6.00	36.00	3	1.08	34.92
Gravel roof	645 sq. ft.	.05	32.25	5	1.60	30.65
Painting			10.00	16	1.60	8.40
Hardware			8.00	8	.64	7.36
Labor and nails			22.00			22.00
			<u>\$612.65</u>			<u>\$599.46</u>
Profit, 10%						61.27
						<u><u>\$660.73</u></u>

[14]

COAL SHED (AGE, EIGHTEEN YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavating	500 cu. yds.	\$0.20	\$100.00			\$100.00
Back filling	100 cu. yds.	.10	10.00			10.00
Flaggers	1,120 sq. ft.	.18	201.60			201.60
Brick	269 M.	9.50	2,555.50	14	\$357.77	2,197.73
Cut stone			12.00	18	2.16	9.84
Spruce timber	23,500 ft.	15.00	352.50	14	49.35	303.15
Plank	1,300 ft.	15.00	19.50	14	2.73	16.77
Roof boards	11,800 ft.	14.00	165.20	36	59.47	105.73
Windows	7	3.00	21.00	25	5.25	15.75
Doors	2	1.50	3.00	25	.75	2.25
Exterior wood			71.30	18	12.83	58.47
Shingles			160.00	12	19.20	140.80
Gravel roof	4,080 sq. ft.	.05	204.00	10	20.40	183.60
Painting			40.00	48	19.20	20.80
Iron			10.00			10.00
Labor and nails			350.00			350.00
			<u>\$4,275.60</u>			<u>\$3,726.49</u>
Profit, 10%						427.56
						<u><u>\$4,154.05</u></u>

[15]

STORE SHED (AGE, EIGHTEEN YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavating	45 cu. yds.	\$0.20	\$9.00			\$9.00
Flaggers	240 sq. ft.	.18	43.20			43.20
Spruce timber	5,600 ft.	15.00	84.00	14	\$11.76	72.24
Hemlock boards	3,000 ft.	12.50	37.50	36	13.50	24.00
Concrete floor	200 yds.	.45	90.00	25	22.50	67.50
Spruce boards	1,000 ft.		12.00	25	3.00	9.00
Shingles			100.00	54	54.00	46.00
Labor and nails			100.00			100.00
			<u>\$475.70</u>			<u>\$370.94</u>
Profit, 10%						47.57
						<u>\$428.51</u>
Extra depreciation of 30%						128.51
						<u><u>\$300.00</u></u>

[16]

FIVE TANKS.

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value.</i>
Excavation	1,704 cu. yds.	\$0.20	\$340.80
Back filling	562 cu. yds.	.10	56.20
Concrete	153 cu. yds.	4.50	688.50
Brick	224 M.	9.50	2,128.00
Puddling	75 cu. yds.	.40	30.00
Planking	4,250 ft.	15.00	63.75
Iron			4.50
			<u>\$3,311.75</u>

Q. Have you prepared a schedule which estimates in a similar manner the buildings of the electric light plant? A. Yes, sir.

Q. And the water plant that is used in connection with it? A. The water plant buildings.

Q. The water plant buildings, I mean. A. Yes, sir.

Q. And what do you say, after deducting depreciation, was the value of those buildings in January, 1898? A. \$75,655.86.

(Schedule of value of buildings at electric light plant marked "Exhibit 109, W. L. H.")

[EXHIBIT 109.]

ESTIMATE

OF

VALUE OF BUILDINGS AT THE ELECTRIC LIGHT STATION,
HOLYOKE, MASS.*By John J. Kirkpatrick, Holyoke, Mass.*

SUMMARY.

HEAD GATE	\$2,745.05
WHEEL PIT AND TAILRACE	34,034.50
WHEEL HOUSE	1,446.60
TUNNELS	909.93
DYNAMO BUILDING	18,028.65
STEAM-ENGINE BUILDING	8,687.00
BOILER HOUSE	4,044.45
CHIMNEY	5,759.68
	<u>\$75,655.86</u>

[2]

HEAD GATE.

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>
Excavation	1,000 cu. yds.	\$0.50	\$500.00
Canal wall removed	230 cu. yds.	.50	115.00
Puddling	140 cu. yds.	.50	70.00
Back filling	300 cu. yds.	.15	45.00
Canal wall relaid	70 cu. yds.	4.50	315.00
Masonry	154 cu. yds.	4.50	693.00
Brick	5 M. ft.	14.00	70.00
Sheet piling	8.3 M. ft.	17.00	141.10
Hemlock timber	3.9 M. ft.	15.00	58.50
White pine plank	1.1 M. ft.	25.00	27.50
Southern pine timber	4.6 M. ft.	24.00	110.40
Labor and spikes			350.00
			<u>\$2,495.50</u>
Profit, 10%			249.55
			<u>\$2,745.05</u>

[3]

WHEEL PIT AND TAILRACE.

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>
Excavation	23,600 cu. yds.	\$0.25	\$5,900.00
Canal wall removed	340 cu. yds.	.50	170.00
Puddling	1,200 cu. yds.	.50	600.00
Stone filling	50 cu. yds.	3.00	150.00
Back filling	14,600 cu. yds.	.15	2,190.00
Canal wall relaid	105 cu. yds.	4.50	472.50
Masonry	2,073 cu. yds.	4.50	9,328.50
Granite masonry	7.5 cu. yds.	45.00	337.50
Brick	801,300	9.50	7,612.35
Hemlock sills	61 M. ft.	15.00	915.00
Hemlock plank, 4-in.	87 M. ft.	15.00	1,305.00
Plank, 2-in. pine	30 M. ft.	24.00	720.00
Sheet piling	51 $\frac{1}{2}$ M. ft.	16.00	89.60
Wood centres			150.00
Labor and spikes			1,000.00
			<u>\$30,940.45</u>
Profit, 10%			3,094.05
			<u><u>\$34,034.50</u></u>

[4]

WHEEL HOUSE (AGE, EIGHT YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Brick	64,000 cu. yds.	\$9.50	\$608.00	6	\$36.48	\$571.52
Cut stone			55.00	8	4.40	50.60
Southern pine timber	8,300 ft.	22.00	182.60	6	10.96	171.64
Southern pine plank	3,200 ft.	22.00	70.40	16	11.26	59.14
Roof plank	7,500 ft.	22.00	165.00	16	26.40	138.60
Doors	2		25.00	12	2.50	22.50
Windows	5	4.00	20.00	12	2.40	17.60
Gravel roof	2,100 ft.	.05	105.00	40	42.00	63.00
Iron work			12.00			12.00
Painting and white- washing			25.00	64	16.00	9.00
Hardware			15.00	32	4.80	10.20
Labor and nails			175.00			175.00
			<u>\$1,458.00</u>			<u>\$1,300.80</u>
Profit, 10%						145.80
						<u><u>\$1,446.60</u></u>

[5]

TUNNELS.

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>
Excavation	385 cu. yds.	\$0.25	\$96.25
Back filling	104 cu. yds.	.10	10.40
Flaggers	597 sq. ft.	.18	107.46
Concrete floor	75 sq. yds.	.45	33.75
Brick	59,700	9.50	567.15
Southern pine timber	100 ft.	22.00	2.20
Wood centres			10.00
			<u>\$827.21</u>
Profit, 10%			82.72
			<u><u>\$909.93</u></u>

[6]

DYNAMO BUILDING (AGE, SEVEN YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavation	2,900 cu. yds.	\$0.25	\$725.00			\$725.00
Back filling	1,273 cu. yds.	.10	127.30			127.30
Flaggers	3,900 sq. ft.	.18	702.00			702.00
Concrete floor	587 sq. yds.	.45	264.15			264.15
Brick	633,000	9.50	6,013.50	5	\$300.68	5,712.82
Masonry	432 cu. yds.	4.25	1,836.00			1,836.00
Cut stone			370.00	7	25.90	344.10
Southern pine timber	31,000 ft.	22.00	682.00	5	34.10	647.90
Spruce plank	57,978 ft.	15.50	898.66	5	44.93	853.73
3-in. native pine	27,562 ft.	21.00	578.80	14	81.03	497.77
Sheathing pine	4,000 ft.	26.00	104.00	7	77.28	96.72
Top floor	16,700 ft.	28.00	467.60	28	130.93	336.67
Windows and frames	102		408.00	10	40.80	367.20
Wooden platforms	3		45.00	28	12.60	32.40
Iron work			2,115.00			2,115.00
Gravel roof	7,465 sq. ft.		373.25	37	130.64	242.61
Doors and frames	17		158.50	10	15.85	142.65
Painting and whitewash- ing			155.00	56	86.80	68.20
Plumbing			157.00	5	7.85	149.15
Hardware			60.00	28	16.80	43.20
Labor and nails			1,000.00			1,000.00
			<u>\$17,240.76</u>			<u>\$16,304.57</u>
Profit, 10%						1,724.08
						<u><u>\$18,028.65</u></u>

[7]

STEAM-ENGINE BUILDING (AGE, SEVEN YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavation	2,177 cu. yds.	\$0.25	\$544.25			\$544.25
Puddling	216 cu. yds.	.50	108.00			108.00
Back filling	300 cu. yds.	.10	30.00			30.00
Flaggers	1,700 sq. ft.	.18	306.00			306.00
Brick	354,500	9.50	3,367.75	5	\$168.39	3,199.36
Cut stone			1,194.00	7	83.58	1,110.42
Southern pine timber	9,608 ft.	22.00	211.38	5	10.57	200.81
Spruce plank	13,700 ft.	16.00	219.20	5	10.96	208.24
Pine roof plank	18,400 ft.	21.00	386.40	14	54.10	332.30
Top flooring	5,100 ft.	28.00	142.00	28	39.98	102.82
Finishing lumber	1,500 ft.	24.00	36.00	7	2.52	33.48
Platform			15.00	28	4.20	10.80
Windows and frames	18		103.50	10	10.35	93.15
Doors and frames	4		60.00	10	6.00	54.00
Cast and wrought iron			665.00			665.00
Slate	47½ sqs.	10.00	475.00	5	23.75	451.75
Painting			23.50	56	13.16	10.34
Hardware			24.30	5	1.22	23.08
Labor and nails			375.00			375.00
			<u>\$8,287.08</u>			<u>\$7,858.30</u>
Profit, 10%						828.70
						<u><u>\$8,687.00</u></u>

[8]

BOILER HOUSE (AGE, SEVEN YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavation	208 cu. yds.	\$0.25	\$52.00			\$52.00
Puddling	147 cu yds.	.60	88.20			88.20
Back filling	22 cu. yds.	.10	2.20			2.20
Flaggers	1,700 sq. ft.	.20	340.00			340.00
Brick	190,900	9.50	1,813.55	5	\$90.68	1,722.87
Paving			118.40	10	11.84	106.56
Cement coping	42 ft.	.20	8.40	7	.59	7.81
Cut stone			46.00	7	3.22	42.78
Southern pine timber	1,300 ft.	22.00	28.60	5	1.43	27.17
Pine roof plank	12,540 ft.	21.00	263.34	14	36.87	226.47
Finishing lumber			15.00	7	1.05	13.95
Iron work			575.00			575.00
Gravel roof	2,850 ft.	.05	142.50	35	49.88	92.62
Doors and frames	5		62.00	10	6.20	55.80
Windows and frames	26		87.00	10	8.70	78.30

TUESDAY, NOV. 20, 1900.

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Painting			\$20.00	56	\$11.20	\$8.80
Hardware			35.00	28	9.80	25.20
Labor and nails			190.00			190.00
			<u>\$3,887.19</u>			<u>\$3,655.73</u>
Profit, 10%						388.72
						<u><u>\$4,044.45</u></u>

[9]

CHIMNEY (AGE, SEVEN YEARS).

<i>Material.</i>	<i>Quantity.</i>	<i>Price.</i>	<i>Value New.</i>	<i>Dep. %</i>	<i>Amt. Dep.</i>	<i>Present Value.</i>
Excavation	333 cu. yds.	\$0.25	\$83.25			\$83.25
Puddling	66 cu. yds.	.60	39.60			39.60
Back filling	90 cu. yds.	.10	9.00			9.00
Brick	387,000	10.00	3,870.00	5	\$193.50	3,676.50
Flaggers	766 sq. ft.	.18	137.88			137.88
Spruce piles	121	3.50	423.50			423.50
Masonry	165 cu. yds.	4.25	701.25			701.25
Iron work			147.50			147.50
			<u>\$5,411.98</u>			<u>\$5,218.48</u>
Profit, 10%						541.20
						<u><u>\$5,759.68</u></u>

Q. Take up your schedule first on the gas works, Mr. Kirkpatrick, and turn to page 2, which is the office building. Whether or not you have followed the same method in the other various buildings of the two plants that you have followed on this page? A. I believe I have.

The CHAIRMAN. Of course I understand that the page disappears when it gets into print. You say "page 2." I suppose you can identify it.

Mr. GREEN. I didn't know that. I am obliged for that suggestion. I would like to have that question stricken out and get it so that it will be in.

Q. So far as you recall now, Mr. Kirkpatrick, have you adopted the same method of valuation in all the other buildings that you have adopted in the case of the office building of the gas plant? A. As far as I recall; yes, sir.

Q. Now you have figured these quantities yourself? A. I have; yes, sir.

Q. Personally? A. Yes, sir.

Q. And the prices that you have placed there are what? What do they represent? A. The prices represent the result of conversations with several of our contractors, and my own experience of what prices were at that date.

Q. Prices new? For instance, the excavation at 20 cents. A. Under the heading "Price" is the price of such excavation at that time.

Q. Then you carry out a column, "The value new." By "value new" you mean the same as the cost new? You mean by that the same as cost new? A. Yes, sir.

Q. Then in some cases you have allowed a depreciation figured in percentage, have you not? A. Yes, sir.

Q. And then you figure up what that amounts to in depreciation, representing the value to you, as I should understand this, of the different parts? A. The present value of the different parts.

Q. After it is subtracted from the value new? A. In 1898.

Q. And the final column, representing the present value—by that you mean the value in 1898 of the parts of the build-

ing, and the total would represent the value of the whole building? A. Yes, sir.

Q. What do those prices represent in the price column? That is, are they wholesale prices or retail prices, so far as the labor and the material is concerned? A. They are a price which a contractor would expect to receive for doing a contract of that size. That is, I assume, for the purpose of estimating the value of these buildings, that the job is to be let in one contract; and that the excavation, back-filling, flaggers, and all materials for the different buildings, are to be lumped into one sum, and for the purpose of estimating later on, subdividing it.

Q. Whether or not in your opinion those prices were the going prices for material and labor and work in the erection of a plant of this size in January, 1898? A. They were the current prices, the general prices, of work being done of that character at that date.

Q. I notice at the bottom that you have added a profit of 10 per cent. Will you explain that? A. After we determine the value new, which is the sum of the cost of the different materials, I add a profit of 10 per cent. for the contractor for each of the buildings.

Q. And you figure that 10 per cent. upon which, Mr. Kirkpatrick,—the value new or the present value? A. Upon the value new.

Q. And add that to the present value? A. Yes, sir.

Q. Of the parts? A. Yes, sir.

Q. Taking the price of brick, I notice that you have, the sixth item down on this office building page, brick at \$9.50. That, I assume, is brick laid; and of what kind, cement or mortar, or how? A. It is brick at \$9.50 per thousand in cement mortar.

Q. Cement mortar? A. Yes, sir.

Q. Now whether or not to your knowledge, Mr. Kirkpatrick, brick of that kind are laid in that way, or were being laid for \$9.50 at this period, January, 1898?

Mr. BROOKS. It is a somewhat leading question.

Mr. GREEN. Very well; strike it out.

Q. What was the going price in Holyoke in January, 1898,

for brick of this kind, laid as this is laid? A. \$9.50 a thousand has been the price for laying a considerable amount of brick in cement mortar at the different mills.

Q. You say, laying a considerable amount. Will you explain just what you mean by that? A. I mean that the Holyoke contractors have laid brick work for \$9.50 a thousand during the year 1898 at the different mills, or several of the mills in Holyoke that I might name.

Q. You say they have done that. What I am getting at is this: Was that the current, going price, or was it an isolated price? A. I think it was the current, usual price.

Q. Do you know at what price Mr. Landers, who testified here in behalf of the Water Power Company, was laying brick of this character for during this period?

Mr. BROOKS. Wait a minute. If he knows.

Mr. GREEN. I asked him if he knew.

A. I do.

Q. Now, in order that we may be sure, do you know this of your own knowledge, or is it from passing upon his work by his bills, or do you know it simply from what somebody has told you? A. I have seen receipts that Mr. Landers has signed for doing brickwork at \$9.50.

Mr. BROOKS. Wait a moment; I object to this.

Mr. COTTER. That is not competent.

Mr. BROOKS. I ask to have the answer stricken out.

Q. Then do you know any more about it than from seeing certain books or data which you assumed were his? That is, did you have occasion to pass upon any of his bills? A. No, sir.

Q. Then I won't go into it. We have another witness who dealt directly with Mr. Landers. Take the excavation, in the first place, of this office building—and if you want to use any of these plans, Mr. Kirkpatrick, I will pass them to you. Will you explain to the Commission, using this building if it is convenient, or any other that you choose to designate, as an illustration, just how you figured the excavating? A. I took the length by the width by the depth, and found the product, which was in cubic feet, and divided by 27; that gives the number of cubic yards.

Q. Did you, in the case of the office building, allow for any slope? A. I believe I have allowed for slope in all buildings.

Q. In all cases? A. I think so.

Q. In the case of the flaggers, using this as an illustration, whether or not you accepted anyone's computations or figured the flaggers yourself? A. I believe I figured the entire quantities.

Q. And whether in any instance in these figures you have compared your work with the buildings there? That is, in other words, whether you have looked them over since you figured and compared your figures with the structures? A. I have; yes, sir.

Q. And for what purpose? A. For the purpose of determining whether I was right or the other fellow.

Q. That is, do your quantities differ from the quantities offered here by Mr. Sawin and Mr. Walther? A. They do in some respects. I do not recall exactly what they are or were at the present time.

Q. Whether or not you compared your quantities with the quantities of these gentlemen, that have been offered in this case? A. I did.

Q. On what basis did you proceed in estimating your depreciation? I will still use the office building as an illustration. I will take the very first item, which is brick. You say the value new is \$370.50, the depreciation 10 per cent., the amount depreciated \$37.05, and the present value \$333.45. Now why did you take 10 per cent. in that instance? A. I first assumed the life of the building with reference to the brick to be one hundred and thirty-two years, and consequently took the depreciation per annum at three-quarters of 1 per cent. I assume the age of the office building at fourteen years, and take three-quarters of fourteen, the nearest whole number to it, or 10 per cent.

Q. Why did you take it one hundred and thirty-two years rather than five hundred or ten or some other time? A. I believe that that is a fair life of the average building. My opinion was formed considerably by experiments made, or

reports made, rather, to the tenth annual meeting, and reported in the tenth annual meeting, of the Fire Underwriters' Association of the Northwest, which was held in Chicago, in September, 1879. Mr. A. W. Spaulding read a paper on the wear and tear of building materials, and tabulated the result. The figures represent the averages deduced from replies made by eighty-three builders, unconnected with fire insurance companies, in twenty-seven cities and towns, in eleven Western States.

Mr. BROOKS. That means the figures of Mr. Spaulding?

The WITNESS. Yes, sir. Those figures can be found on page 702 of the "Architects' and Builders' Pocketbook," by Kidder. Mr. Spaulding's paper gives the —

(Objected to.)

Q. Now, without reciting these tables, without giving the details of the tables or putting the table itself in, Mr. Kirkpatrick, will you proceed and tell how you got at this result?

A. Then I assume the life of the brick to be one hundred and thirty-two years, and the depreciation for each year of the existence of that building three-quarters of 1 per cent. on the brick work. On the plastering I assume a life of sixty years, on the painting a life of twelve years, on shingles a life of thirty-two years, on the cornice eighty years, on sheathing one hundred years, flooring twenty-six years, doors and windows complete sixty years, stairs and newels forty years, inside blinds sixty years, base sixty years,—the baseboard running round the floor; hardware twenty-six years, outside blinds thirty-two years, sills and first floor joists sixty years, dimension lumber one hundred and thirty-two years, slate one hundred and thirty-two years, gravel roof twenty years, plumbing one hundred and thirty-two years.

Mr. BROOKS. Have you got that all down?

The WITNESS. Only in my memorandum.

Mr. BROOKS. That is all right; then I can use that later on.

The WITNESS. Then I found what per cent. each one of those would amount to per year, and multiplied by the number of years that the building has been built. The product of that I consider the amount depreciated, and deduct that from the new value, and I receive the present value.

Q. Now outside of these tables which you say that you have considered, what else have you considered, if anything? A. I have consulted a number of books.

Q. Whether or not you have examined the buildings themselves? A. I have; yes, sir.

Q. You say you have consulted other books? A. Yes, sir.

Q. Bearing upon what question?

Mr. GOULDING. Is this the contents of the book?

Mr. GREEN. No; I simply ask him, bearing upon what question?

A. The construction of buildings and supervision of buildings, books pertaining to buildings, architectural books properly.

Q. Without taking up the other buildings—I presume I have asked this before—whether or not you followed that same rule with the various buildings? A. I have.

Q. How have you figured your materials? That is, take, for instance, your brick. Is that for brick alone or is it for brick laid? A. Brick laid.

Q. Well, how about the roof boards and the pine top floor and so on? Is that the flooring and the labor, or is it the material alone? A. That is the material alone. I put in the labor afterwards.

Q. Have you got your labor figured in at any place that you now recall—if there is any that you recall later you can tell us—but, as you recall it now, have you put your labor into the material in any case except the brick? I have put it into the excavating, back-filling, flaggers, tar concrete, brick work, stone work.

Q. Are there any others? A. Probably a number of small items.

Q. In the general item of lumber have you included labor? A. Only as a separate item which is at the foot of each page.

Q. How about your doors and windows and blinds? Whether those are the blinds and doors and windows painted and put up, or are they simply the plain blind or door or window? A. Those are all as they came from the shop, and to be erected, under the item of labor.

Q. And the labor is put in as the cost of doing the work?

A. Yes, sir.

Mr. BROOKS. That is, I understand, the labor is a separate estimation.

Q. I notice you have an item here for painting, \$75. A. In the office building, yes, sir.

Mr. GOULDING. What building?

Mr. GREEN. The office building. We are just talking about the office building, the gas works.

Q. Take Gasometer No. 1. That is on page 3, Mr. Brooks, of this schedule. The excavating for this gasometer you, figured in what way? A. I took the external diameter of the gasometer and added what I thought was proper for a slope, and thereby obtained the area, and multiplied it by the height, or depth.

Q. Now, where did you get that depth? A. From the plans.

Q. Do the plans show the depth of the gasometer? A. I believe they do.

Q. In all instances were you able to get at the actual depth of the foundations of these various buildings? A. Some of my computations were made from the actual depth, and others were not.

Q. Why were the others not? A. I understand there is no positive proof that any one knows the actual depth of some of the foundations.

Q. Well, where you could not ascertain the actual depth what did you do? A. I took them as I believed they ought to be.

Q. And by "ought to be" you mean what? A. Should have been under ordinary construction.

Q. Take the matter of the spruce lumber in the Gasometer No. 1, \$15 a thousand. Do you know just about how that price compared with the wholesale price of lumber? A. I do.

Q. How? A. I believe that is very near what the wholesale price of lumber was at that time.

Q. The iron work that is found in Gasometer No. 1, Mr. Kirkpatrick, did you compute that yourself? A. The iron

work? No, sir. The iron work computations were made by Mace Moulton, consulting engineer, of Springfield.

Q. By Mace Moulton. Does that apply to the iron work in the other gasometers? A. Throughout all the buildings.

Q. The iron work is by Mace Moulton? A. Yes, sir.

Q. Is there any other work besides that iron work that you had figured for you? A. I believe I made all the computations myself. I may have inquired as for prices from others.

Q. At what length did you inquire in Holyoke in regard to prices at which one could buy materials in large quantities, as large as these plants, in January, 1898? A. I inquired at considerable length. I obtained prices from three lumber yards, I think, for the prices of lumber and prices of stone work from—I believe the best stonemason in the city, and prices of brick work I obtained from local contractors, and most of those I knew to be the current prices.

Q. Can you tell, Mr. Kirkpatrick—I won't stop to ask you now, but consider it during the noon hour—just what buildings you had to estimate the foundations from what you considered good practice, and what you could take them from measurements? A. I might say that all those that the plans show the foundations, to run down some 15 feet or more in the ground. I believe under that head came the purifying house; I am not positive, but I think the pipe shop was in it; I think the water gas meter room or the station meter room, I don't know which. I do not recall any others just at this moment.

Q. Well, you say the plans there show the foundations running down some fifteen feet. Now, why did you not follow the plans in those instances? A. I don't know that there is anything that would go to show that those foundations run down as deeply as the plan called for them, and I don't know as there is anything to show that they would not; but I took them at what I assumed and believed there ought to be and what a man would do if he was going to build them now.

Q. Did you look up the question of the iron work in that Bridge-street holder? A. I did. I went down there with Mr. Davis, I think, and I referred that matter to Mr. Moulton.

Q. Were you able, you or any of you, when you were there

together, to find the iron that they have got set out in their Bridge-street holder? A. We were not.

Q. And did you look for it more than once? A. I believe I was at the Bridge-street holder three or four times on that mission.

Q. Whether or not in regard to the item of iron work you had the same difficulty in any other instances? A. I believe there are some places where I considered that the estimates included what I would call machinery—I mean now the estimates of Mr. Walther in respect to the water gas plant particularly. I think those estimates included the weight of the iron work for some of the machinery, and as I did not include the estimate of machinery in my estimate of value here, I omitted those items.

Q. Just what building was that,—the water gas plant? A. I believe so; yes, sir.

(Mr. Green asked for the volumes of testimony containing the report of the evidence offered by the petitioner in this case, and it was stated that the volumes which had been used at the recent hearings had been left in the room in which the last hearing was held.)

Q. Can you tell us in a general way, Mr. Kirkpatrick, where your differences in quantities came; that is, whether it was in foundation or in brick work or in lumber or where? A. I believe the principal difference is in the excavation, the back-filling and the brick work.

Q. As far as the gas plant is concerned? A. Yes, sir.

Q. Now take up the electric light station, if you please. Where do your differences come there in quantities, if you have any differences? A. I believe they are in the same materials.

Q. Take up first the head gate —

Mr. GREEN. Well, I cannot take it up in the way I want to. If your Honor please, before I go on with this, I want those volumes of evidence. It is ten minutes of one, we might just as well adjourn, and I will try and be here promptly at two, because I want to compare them with Sawin's quantities or Walther's.

(Noon recess.)

AFTERNOON SESSION.

Mr. GREEN. Would the Commission like Volume 1, which contains the petitioner's quantities? I have a little handbook which I can use. (Giving the volume to the Commissioners.) I think it might aid a little in comparing the quantities used.

JOHN J. KIRKPATRICK, *resumed.*

Direct examination by Mr. GREEN, continued.

Q. Take the head-gate schedule of your electric light schedule, Mr. Kirkpatrick. I notice the first difference in excavation, that you have 1,000 cubic yards where Mr. Sawin's estimate calls for 1,085. As you recall it, are there any substantial differences in the quantities in the head gate? A. I don't remember that there are.

Q. I do not observe any substantial differences there, so I will not stop with that. Take the wheel-pit and tail-race, please. I notice that you have 23,600 cubic yards where Mr. Sawin has 32,333 cubic yards. A. I believe that is true.

Q. And I notice that in puddling you run about the same, that in back-filling he [Sawin] has 18,389 cubic yards where you have 14,600, and that in the brick work he has two items of 99,851 brick for the wheel-pit and 925,684 for the tail-race. I only observe one item in your case; that is, brick, 801,300. A. I have added the two together.

Q. What is that? A. I have added the brick work that I found in the wheel-pit and in the tail-race together, making 801,300.

Q. Now, do you know of any reason for so large a difference between your two figures in brick? A. I think that the engineers of the Water Power Company have included in their estimates of the brick work a portion of masonry that is shown as being intended for foundation walls of the Cabot-street mill extension. I think the plans indicate that they

intended to extend that mill and use a portion of that brick work for the foundations of the mill.

Q. Then you have taken for your quantity of brick work in the wheel-pit and tail-race not the quantities actually in there, but certain other quantities? A. Well, I have omitted anything that is shown on the plan that I thought was intended to be for other purposes.

Q. Is that, in your opinion, any more valuable for the purposes of its use with the amount of brick that they have in it than it would be if it was constructed with 801,300 brick? A. I do not see the necessity for any brick work on top of the arches of the tail-race.

Q. Now will you show the Commission, using the maps,— You are using now, Mr. Kirkpatrick, a set of plans which is simply marked "Introduced in court," and can you describe the particular plan so that we can identify it? Is there any marking here? A. This is marked "Detail plan of wheel-pit and tail-race, electric light and power plant, Holyoke, Mass. Scale, $\frac{1}{4}$ inch = 1 foot. October, 1898. W. E. Sawin."

Q. Now, will you show to the Commission where you think that the unnecessary brick is, the brick designed for the walls of the building? A. There is a note on this map: "East foundation wall of proposed Cabot-street mill extension." There is a pier there or a wall 28 inches wide—I don't know the height now exactly—with a saddle underneath it; another one that is 3 feet wide—or 66 piers, 3 feet wide; and a third brick cross-wall that is 16 inches wide; and down on the section through the tail-race is marked "South foundation wall of proposed Cabot-street mill extension, 276 feet 6 inches long." On the same section are shown the brick piers that I have already spoken of.

Q. Well, apart from their use (to put this question another way), apart from their use in case the Cabot-street mill was extended, and taking their use simply as part of the tail-race, does this additional brick add anything to the value? A. Not in the least.

Q. Have you any explanation to offer for the difference in the quantity of excavation as computed by Mr. Sawin and by

yourself? A. I only submit my quantity of the excavation as I found it.

Q. I meant if there was anything that you would see in the way that was constructed to explain it. Do you recall any other large difference in the wheel-pit and tail-race other than that item of brick? A. Brick and excavation; I think that is all.

Q. In the wheel house do you recall any large differences? A. No, sir, unless in the roof planking. I think I have considerable more than they have.

Q. In the what? A. Roof planking.

Q. You have more there. I assume (I think it was included in a question that I asked you this morning) that the iron work throughout all these buildings was estimated by Mr. Moulton? A. Yes, sir.

Q. Or somebody in his employ. If there are no large differences in the wheel house we will pass on to the tunnels. I notice that your brick work is estimated in quantity as 59,700 brick, and in Mr. Sawin's it is 86,265 brick. (Vol. I, p. 288.) Is there anything in the construction of this plant that explains that difference? A. Yes, sir.

Q. What is that? Describe the sheet of this particular set of plans that you used, so that we can identify it. A. The sheet is a plan of the shafting, principally, showing the location of it with reference to the wheels particularly. The tunnels are shown on a transverse section through the tunnel and a longitudinal section through the tunnel. In the longitudinal section is shown a testing flume penstock, 9 feet in diameter. On each side of that penstock (I believe the penstock runs easterly and westerly), and on the northerly side of that penstock, and on the southerly side of it, runs a wall 20 inches thick down to a considerable depth, about 8 feet, I should judge, below the floor of the tunnels proper. In my opinion those two walls were put up to protect that penstock. I have not figured in my estimate the brick work which is contained in those two walls, or in the arch that runs over the penstock.

Q. Does the brick thus used add anything to the value of the tunnels? A. No, sir.

Q. Is there any other large difference in the quantities in your tunnels? A. In the excavation. I allow nothing for the excavating for those two walls, which makes a difference. I don't remember what it is.

Q. It is given in his schedule at 584 cubic yards, and yours at 384. In getting at these results (I will interject a question now), in getting at these results, have you used any plans? A. Yes, sir.

Q. What plans? A. I have used these plans, and copies of them, and plans prepared for the gas works under my direction.

Mr. BROOKS. By the gas works?

Mr. GREEN. For the gas works.

The WITNESS. Plans prepared for the gas works, under my direction, by Mr. Ellsworth; and also plans prepared by the Company.

Q. Speaking of the plans prepared by the Company, do you mean the plans that are here in this case? A. Yes, sir.

Mr. GOULDING. How are they different from these plans?

Mr. GREEN. Which plans different?

Mr. GOULDING. He began by saying he used these plans. Now were these prepared by the Company?

Mr. GREEN. Yes, these were prepared by the Company.

Q. These were the Company's plans; that is what I mean; the plans that are now before you are the Company's plans? A. Yes, sir.

Q. Offered in evidence here by the Company? A. Yes, sir.

Q. Then you say you used some other plans of the gas works? A. They were prepared by Mr. Ellsworth under my direction when I was city engineer.

Q. Whether or not you made measurements yourself? A. No, sir, I did not, not any measurements of the buildings. That is, not measurements of the buildings for the purpose of determining quantities. I made measurements of the buildings for other purposes.

Q. We are now upon the electric plant. Whether you used

any other plans than the Holyoke Water Power plans in getting at these quantities in the electric plant? A. Not in the electric plant.

Q. Now, turning to the dynamo building, I notice that your quantities in excavation are 2900 cubic yards, and Mr. Sawin's quantity is 5,041 cubic yards. Is there anything in the plans that explains that difference? A. I know of no reason why there should be that difference.

The CHAIRMAN. What is the difference? I ought to have attended —

Mr. GREEN. It is 2100 cubic yards, practically.

Q. Now, do you recall any large differences there outside of excavation? A. It is so long ago I do not recall much about it.

Q. I will run it down, if you will pardon me. (Comparing figures.) Well, unless you recall something, I see as I glance through it no large differences. There are some differences along, item by item. Take the steam engine building; do you recall any large differences in the steam engine building? A. No, sir; I do not.

Q. I notice that you estimate your brick together at \$9.50 a thousand. How is that brick laid, all of it, as you have estimated it? A. Some of the brick work is laid in cement mortar and some is laid in lime mortar. I have lumped the whole job.

Q. What do you allow independently — independently of these figures here, I mean — for cement work and for mortar work? A. Well, there is usually about \$1 a thousand difference.

Q. If I understand you rightly, that would be \$9 for one and \$10 for the other? A. Yes, or ten and eleven, or twelve and thirteen, or thirteen and fourteen, whatever it may be. If the price of cement is \$10, then the other is usually \$9.

Q. Take the boiler house; I notice a difference again in the excavation. Mr. Sawin's estimate calls for 742 cubic yards, and yours 208. Is there anything in the plans, or anything in the way the building is constructed which would explain that difference? A. No, sir.

Q. Mr. Sawin's estimate of brick work calls for 44,912 brick in cement mortar, and 13,400 brick for the boiler foundations, and 146,061 brick in lime, and 19,300 brick in paving. What is the total of your brick? A. 190,900. I don't include anything for boiler foundations.

Q. Well, leaving out the boiler foundations, if I have added correctly, Mr. Sawin's estimate calls for 210,212 brick as compared with your 190,900; and then you say that you did not allow for the foundations. Now, why do you not allow for brick for the foundations of the boiler? A. Foundations for all machinery I have left to the experts upon machinery to estimate with their values, because it is part of the machinery and not a part of the building.

Q. Do you recall any other large differences in your boiler house quantities? A. No, sir; I do not.

Q. Well, now, take the chimney. You allow for 333 cubic yards of excavation, and Mr. Sawin estimates 1,261 cubic yards. Is there anything in the construction as shown by the plans of the Company which explains that difference? A. No, sir.

Q. To account for it in any way? A. I could not find any such amount as he estimated.

Q. There is a difference in the amount of brick computed. Mr. Sawin's estimate calls for 393,000, in round numbers, of brick, while your computation is 387,000, a matter of 6,000 brick difference. I don't know whether that is a large or a small difference on a stack of that size? A. I am inclined to think that I made a mistake on that. Looking over my notes last night I could not see where I had figured in the amount of brick that is behind the chimney cap.

Q. Yes. Then, Mr. Kirkpatrick, if that is so — A. I said "last night." I meant Saturday.

Q. Saturday? A. Yes, sir.

Q. If that is so, will you state to us, before you close your testimony, or can you now tell us, how much that would add to your figures? A. I think it would add about that 6,000.

Q. 6,000 brick? A. 6,000 brick.

Q. At \$10? A. Yes, sir.

Q. It would make \$60 difference? A. Yes, sir.

Q. So that you would increase your figures by that \$60?

A. I believe I would.

Q. Let us run through the gas works now for a noment to see if there is any other place. Have you your estimate now of the brick work? A. I have the original copy of the schedule.

Q. Well, now, take the office.

Mr. BROOKS. What is this going back to, the gas?

Mr. GREEN. Yes, page 151 of Volume 1.

Q. Are there any large differences that you recall in the office building? A. I don't think there is anything of very much consequence there.

Q. I notice that your excavation calls for —

Mr. GOULDING. A little louder, Mr. Kirkpatrick, if you will.

Q. I notice in your estimate you call for 90 cubic yards of excavating against 81 of Mr. Sawin's, and 18 cubic yards of back-filling against his 17½? A. Excuse me, those are Mr. Walther's, I guess. Well, I put those in as I got them.

Mr. BROOKS. As you "got them"?

The WITNESS. As I determined them, calculated them.

Q. Did you calculate these from the Company's plans or from the plans prepared by Mr. Ellsworth? A. I have used both. I think the two plans are practically the same.

Q. Well, if there is no large difference, pass to Gasometer No. 1. I notice there that you have 3,500 cubic yards of excavating as against Mr. Walther's 5,000 cubic yards, and 400 cubic yards of back-filling as against his 2,000. Is there anything in the plans or in the way that you computed to explain that difference? A. I don't know where there should be any such difference. I computed what I thought there ought to be allowed.

The CHAIRMAN. Has he prepared any table or anything to show the comparative difference, so as to save the trouble of asking him in detail, so that he could tell the whole thing?

Mr. GREEN. We have one which we can offer to-morrow, but we haven't it here to-day. I wanted to say to the Court that we had to change our arrangements at a late hour, owing to the illness of Mr. Steadman, whom we expected to go on

with, so that Mr. Kirkpatrick had to go on with the papers as he had them, and two or three things are not here. We have a schedule, and we will offer it to-morrow probably.

Q. In Gasometer No. 2. are there any large differences that occur to you, as you look over your figures? A. I don't remember them now, Mr. Green. There may be, but I don't remember them.

Q. Then if you don't recall, I will rest with the general question: Is there any large difference in the gas plant that occurs to you outside of your differences in excavating and back-filling? A. And brick work.

Q. Anywhere throughout the gas works?

Mr. BROOKS. Of course there is a very large difference in Gasometer No. 2.

Mr. GREEN. In Gasometer No. 2?

Q. Let us take Gasometer No. 2. The brick that is called for by Mr. Walther's is 634,756, and your brick is 630,000.

Mr. BROOKS. I was calling special attention to the excavation.

Mr. GREEN. Yes.

Q. Well, now, is there anything about the plans or your method of computation to explain the differences there in the excavating or in the brick work? A. Merely a difference of engineers as to what should be allowed.

Q. Should be allowed where? A. Well, what it is proper to allow for excavation.

Q. Without going over it any further in detail, you have prepared, have you not, Mr. Kirkpatrick, a schedule showing the difference, item by item, throughout the gas and electric plants? A. Yes, sir.

Mr. GREEN. I will offer that later as soon as I can get it.

Q. Mr. Kirkpatrick, are you familiar with the location selected by Mr. Davis for his gas works?

Mr. BROOKS. Not selected by him.

Mr. GREEN. Well, selected by Mr. Kirkpatrick, if you will. A. I am.

Q. Upon which Mr. Davis has erected his plant? A. Yes, sir.

Q. Are you familiar with the locality where this lot is?
A. Yes, sir.

Q. And the lot selected for this purpose is known by what name? A. South Holyoke city lot.

By Mr. GOULDING.

Q. What? A. South Holyoke city lot.

By Mr. GREEN.

Q. In Mr. Davis's blue print there, is there any error in the naming of the streets or the location of the streets? A. I think there is; yes, sir.

Q. In what respect? A. I believe he has got Berkshire Street at the wrong end of the map. It should be—

By the CHAIRMAN.

Q. On the opposite side? A. On the opposite end.

By Mr. GREEN.

Q. Do you recall the name of the street that is where Berkshire Street is marked on his blue print? A. There is no street there. That lot adjacent to this lot is owned by the Germania Mills. The next street is about one hundred feet from this lot. South Street is the street to the north.

Q. But does that—barring the error in the name of the street,—does that plan correctly represent the size and shape of the city lot? A. Very nearly, I think; yes, sir.

Q. Have you anything there by which you can gauge it to see? A. I think I have. This is a plan of the city lot (indicating), and below the Germania Mill property on Berkshire Street.

Q. When you say "this" you refer to another plan that you have just produced? A. Yes, sir.

Q. And does the plan that you have just produced represent the sewer that crosses this lot? A. It shows the location of both sewers across the lot.

Q. Do you know how deeply under ground those sewers are put?

Mr. BROOKS. Do you offer that plan?

Mr. GREEN. I shall in just a moment.

A. I know, nearly ; yes, sir. The plan shows very nearly ; yes, sir.

Q. Will you tell us ? A. It runs from five feet on the southerly end to about nine feet on the northerly end.

By the CHAIRMAN.

Q. What does ? A. The sewer beneath the ground.

By Mr. GOULDING.

Q. That is the distance beneath the ground ? A. Yes, sir ; from five to nine feet.

By Mr. GREEN.

Q. Is this plan prepared by you ? A. Plan prepared by me when I was city engineer.

Q. Drawn to a scale ? A. Yes, sir.

Q. And does it correctly represent the dimensions of this city lot, and the location of the sewer ? A. I believe it does.

Mr. GREEN. I offer it.

Mr. GOULDING. I would like to see it.

(The plan referred to was shown to Mr. Brooks and Mr. Goulding.)

Mr. BROOKS. Where is any scale on this plan ?

The CHAIRMAN. What is the scale, Mr. Witness ?

By Mr. BROOKS.

Q. What is the scale of this plan ? A. I don't know. I don't know whether it is marked or not. I have not seen that map for a year.

Mr. GREEN. The scale is not put on it, as a matter of fact. The dimensions are put on.

By Mr. GREEN.

Q. And could you give us a scale from the dimensions you have there ? A. Yes, sir.

Q. I will ask you to do so in a moment.

By Mr. BROOKS.

Q. No railroad shows on this plan ? A. No, sir.

Mr. GREEN. I will come to that in just a moment.

By Mr. BROOKS.

Q. Mr. Kirkpatrick, are the distances that you speak of here—I think you say the depth is from perhaps four to nine feet, five feet to nine feet—are they to the grade of the sewer? A. To the top of the sewer.

Q. That is, to the brick work of the sewer? A. Yes, sir.

Q. What? A. Yes, sir.

Mr. BROOKS. All right, Mr. Green. (Handing the plan to Mr. Green.)

Mr. GREEN. (To the stenographer.) Will you mark this in some way?

(The plan was marked by the stenographer "Ex. 110, E. L. D., Nov. 20-00.")

By Mr. GREEN.

Q. Will you tell us, Mr. Kirkpatrick, what scale that is drawn to? A. Twenty feet to the inch.

Mr. GOULDING. Twenty?

The WITNESS. Twenty.

By Mr. BROOKS.

Q. What is the scale of the profile at the bottom of that plan? A. I could not say, sir; I have not the scale of that.

By Mr. GOULDING.

Q. Could you get it from that? A. I can get it from my records at home.

Mr. BROOKS. We would like that for the purposes of cross-examination.

Mr. GREEN. We will endeavor to get that for you, Mr. Brooks.

By Mr. GREEN.

Q. Will you see if you can ascertain that in any way at the close of the evidence this afternoon, Mr. Kirkpatrick, so that they can have it? Have you anything here from which you can compute it? A. I cannot do it now. That (referring to tape measure) is not fine enough; it is not graduated fine enough to give it.

Q. Where, relative to any of the streets of this city lot, do any railroads come at the present time? A. The Holyoke &

Westfield division of the New York, New Haven & Hartford runs on the southerly side of South Street, just north of the Germania Mill property, probably 110, 115 or 120 feet distant from this lot.

Mr. BROOKS. That is northerly of this Germania Mill building here ?

The WITNESS. Northerly from that line, yes. It runs on the southerly side of South Street, just north of the Germania Mill building.

Q. Is there a building there of the Germania Mill property ?

A. Yes, sir.

Q. And the Germania Mill property is next to South Street ? A. Yes, sir.

Q. And it is on South Street that this railroad runs ? A. Yes, sir. There is another branch of railroad, a branch of the Boston & Maine, Connecticut River division ; it comes down from the northerly end of the city through Race Street, and stops somewhere just north of the northerly side of South Street.

Q. How far does that approximately come to this city lot ?

A. Probably 175 or 200 feet..

Q. And do these railroads down there run along the streets ? I notice you said on South Street and Race Street. A. They run in the streets at that point ; yes, sir.

Q. How is this neighborhood where this city lot is ; that is, whether or not it is built up, or whether it is open land ? A. There are mill buildings on the north of that property —

Mr. BROOKS. Mill buildings north of that property ?

The WITNESS. Mill buildings north of that property, just north of South Street ; but west and east and south of the property there are no buildings at present,— that is, I mean by that, on the next lots to it.

Q. Did you take the elevation of this lot ? A. Yes, sir.

Q. And how is it ? What is the elevation exactly as compared with the present site of the gas works ?

Mr. BROOKS. I suppose this goes in, of course, under our objection which we made.

The CHAIRMAN. Yes.

A. About six or seven feet lower than the other lot.

Mr. BROOKS. About sixty-seven?

The WITNESS. Six or seven.

Q. Whether or not, Mr. Kirkpatrick, this lot is a lot that is flooded by the spring freshets of the Connecticut River? A. I have never known it to be; it might have been before I was born, in that freshet of '65.

Q. Well, so far as you know, has it been? A. No, sir.

Q. What do you say as to any other land—omitting this for a moment—any other land similarly situated to the present site of the gas works, for the purposes of gas works?

Mr. BROOKS. I object to that question. I don't know what he is going to say.

Q. In other words, whether or not there are other lots to your knowledge similarly situated, in comparison with the present site of the gas works, for the purposes of gas works?

The CHAIRMAN. That is bearing on the value—the situation with relation to the property; I don't see any objection to it.

Mr. BROOKS. We object to that question, may it please your Honors.

The CHAIRMAN. We admit it, and you take an exception, I suppose.

Mr. BROOKS. I did not care—I thought perhaps you might bear with us on the suggestion. There must be land of substantially the same size, as well as similarly situated. This is not included in his question.

The CHAIRMAN. I suppose the only object of the testimony is to show practically the relation of this property to other property.

Mr. BROOKS. I understand that; but they have got to get lots large enough, haven't they?

The CHAIRMAN. Oh, yes. There will be no difficulty about that. I supposed it was property that was adapted to the gas business.

Mr. GREEN. I assumed that.

Mr. GOULDING. I suppose the judgment of the Court is made up on that question; I do not know but it is included in the former ruling.

The CHAIRMAN. Yes.

Mr. GOULDING. We don't want to be concluded by any such evidence as that, unless they are laying the foundation to show the sale of a similar lot.

Mr. GREEN. For the purpose on which we have offered this I could not offer the others. This is the only one that I can tell the Commission that I know of a sale; but as bearing upon the first suggestion, as to whether or not the lot of the present gas works is the only lot in Holyoke that is suited for gas works, or whether these two are the only two lots, I think the question is open as to whether there are other lots large enough and similarly well suited for that purpose.

The CHAIRMAN. I think, as already decided, as to the description and location, etc., as bearing upon the value of the lot in hand, I think that we will hear the evidence.

Mr. BROOKS. Of course our exception is saved.

The CHAIRMAN. Yes, sir.

A. I think there are many lots down in this vicinity that might be used for gas purposes.

Mr. BROOKS. What vicinity?

The WITNESS. In the vicinity of the city lot.

Mr. BROOKS. I object to that and ask to have that answer stricken out.

Mr. COTTER. We supposed it had reference to the existing plant.

Mr. BROOKS. So did I when the question was asked.

The CHAIRMAN. We shall not allow you to show any similarity of this property with other property.

Mr. GREEN. I haven't asked that and I don't think the witness meant that.

Mr. BROOKS. Is this answer to stand?

Mr. GREEN. Before it is stricken out I would like to have the question and answer read.

(The preceding question, "What do you say as to any other land," etc., and the answer were read by the stenographer.)

Mr. GREEN. I do not see as that should be stricken out.

The CHAIRMAN. The question which you put originally is all right and the answer is all right, if it applied; but the

further question that Mr. Brooks put shows he evidently is applying his mind to the city lot and not the other lot.

Mr. GREEN. He is asked where it is, and says it is in the vicinity of this lot, equally as well suited to the purposes of a gas works as the present plant.

The CHAIRMAN. As the present plant?

Mr. GREEN. Certainly; that is his comparison, as I understand it.

The CHAIRMAN. But here is the difficulty: if this evidence is of any value whatever,—and for the life of me I can't see what practical use it is excepting as a matter of a practical description of the premises,—he must relate it to the present plant. If he is doing that, why, it is all right.

Mr. GREEN. I assume he is. I asked in that line and I think the witness has started to answer on that line.

The CHAIRMAN. You can take a map and satisfy yourself, by the looks of the property, by the condition of the property. All this is good for is to describe the premises and the location, etc. I think your question goes beyond it.

Mr. GOULDING. His answer in and of itself shows he is referring to the South Holyoke lot.

Mr. COTTER. We think he so stated, Mr. Green, in reply to Mr. Brooks's question. We understood up to that time he was testifying in reference to the existing plant—the plant that was taken; but in reply to Mr. Brooks's question we had the first intimation that he was applying it to the other lot.

Mr. GREEN. He was asked where it was, and he said lands in the vicinity of this plant.

Mr. BROOKS. It must be almost a matter of common knowledge now that it cannot be similarly situated and be where he says he locates it.

Mr. MATTHEWS. It seems to me, if I understand this matter, that the evidence is offered for the purpose of showing that there is other land in Holyoke equally available for the purpose of a gas plant, equally suitable for that purpose; and we shall follow up this evidence by showing that the value of that land, or the price of it, is very much less than the assumed value of the land upon which the gas works is, considered apart

from the works themselves. Now that line of evidence must be open to us.

The CHAIRMAN. Evidence of sales of that kind?

Mr. MATTHEWS. We propose to show it.

Mr. GREEN. I have no other sale, only this one.

Mr. BROOKS. For the purpose that Mr. Matthews now states, I understood it was to be excluded.

Mr. GREEN. I offer it distinctly for this purpose, to show that there are other tracts of land in Holyoke, apart from the two that are already considered, the one that has been sold and the one now occupied, which are equally adapted and suited to the purpose of a gas plant as the present gas-plant land.

Mr. MATTHEWS. And we propose to follow that up by showing the value of the other sites.

Mr. GREEN. We intend to if it is permissible.

The CHAIRMAN. We do not think it is permissible.

Mr. MATTHEWS. Would your Honors regard the case of *Lowell v. County Commissioners*, in the 146th Mass.?

The CHAIRMAN. Yes. That does not go into the question of land.

Mr. MATTHEWS. That is just what it did relate to. A witness was permitted to testify to how much a foot would be the price of land in Massachusetts suitable for the purposes of a cotton-mill. Now it is part of our case that this land is to be valued for the purposes of its use,—that is, for a gas works; and the land is not worth any more for gas works purposes than any other lot of land in Holyoke equally available and suitable for the purpose. If, for instance, the value of this land is 50 cents a foot, for illustration, considered as land for any purpose, and it is possible to find land in Holyoke equally suitable for a gas works at 10 cents a foot, then we contend that all this Commission can award to the Holyoke Water Power Company in this case is 10 cents a foot; and if the case of *Lowell v. County Commissioners* in the 146th Mass. is not authority on that point, I am at a loss to understand the meaning of that decision.

The CHAIRMAN. That is your technical position, is it?

Mr. MATTHEWS. Yes, sir. We claim that the same

measure of value is to be applied in this case as in the case of tax valuation, the fair market value of this property for the purpose of its use. It is to be valued as a whole; and how can you value property as a whole for manufacturing purposes if you are going to assign to the land upon which the works stand a higher value than its value for such manufacturing purposes? We claim the limit of recovery in this case by the corporation, in respect of its lands, is the value of equally available and suitable land for gas works.

The CHAIRMAN. What do you say to that clause in the statute that says it may be valued for other purposes?

Mr. MATTHEWS. It says any portion, and we understand that to mean any severable portion, not literally every nail or board or brick. That is to say, if the land and buildings as a whole are worth for dismantlement purposes more than for gas works, we have got to pay the difference, unless the Commission find that the whole site is unsuitable for the purposes of its use; but we deny the right of the Company to a segregation of this plant into all its parts, and to the value of each considered separately, irrespective of the fact that most of it, if dismantled, would be worth very little. We do not think that that is the meaning of the word "portion" as used in the municipal lighting law. "Portion," we think, must be used with some regard to its legal meaning in such cases, and must mean some severable portion, some distinct and separate portion, capable of being treated as a whole, such as land and buildings together, for instance. This is our case, if your Honors please; and inasmuch as the Company has been permitted to try its case in its own way, it seemed to me that we should be permitted to put in our evidence upon our theory of the construction of this law.

The CHAIRMAN. I agree with you.

Mr. MATTHEWS. This is vital. This land we will assume to be worth 50 cents a foot — it is not worth near that, we will show — but we assume it to be worth more for some other purpose than for gas works. That raises at once a question of law: whether the City of Holyoke is bound to pay the highest price that that land would bring if unencumbered by buildings,

or whether it is only obliged to pay the value of that land for gas works. We maintain the latter, our friends maintain the former, theory. We say that the City must pay the value of the land and buildings for gas works, unless the dismantlement value is greater; in which case the buildings are to be taken at their dismantlement value, as well as the land. Is the Commission going to decide that question off-hand at the present time?

The CHAIRMAN. Well, Mr. Matthews, we should not think of admitting this upon any other principle than that which you have just laid down, and that is, for the purpose of testing it, on your claim under this law, the same as we have admitted other evidence; that is, to examine it and exclude it if later we discover it is not competent.

Mr. GOULDING. We do not want by our silence to admit that any of these authorities he has cited have any tendency to support his proposition. Pretty much every one of his propositions needs to be turned inside out and end for end before it begins to sound like any correct principle of law. That is our position about it, but I am not going to stop every five minutes to discuss it. My friend goes out and spends two or three days looking up authorities, apparently, and comes in here with a final brief on his case, and I am not going to answer him every day or every other day. When we get to the end we will do as well as we can with the propositions on the old, ancient rules of law, and not on any of these new-fangled notions.

Mr. BROOKS. Then this is admitted *de bene*?

The CHAIRMAN. I do not like the word *de bene*. It is admitted at the present time. The construction of the statute with reference to that, we will say, has not been determined as yet by this Commission. As you claim it, it may turn out to be perfectly right; it may turn out to be wrong. Here is the claim that Mr. Matthews makes — a novel one to me, I confess; but if he claims that his case stands by that theory, or if he is going to put his case upon that as one of his theories, I think we had better hear the testimony.

Mr. BROOKS. Of course our rights will be reserved. We save an exception.

Mr. MATTHEWS. I would like to call my brother's attention, in passing, to the fact that the authority I cited is not a new one, but it is one I cited the other day on this express point. It was simply a repetition.

Mr. GOULDING. I have examined that case and several of the other cases the gentleman has cited. They have no sort of relation to this matter, and I do not by my silence want to admit that they are authorities on it. I will deal with it when we get to the end of this case.

Mr. MATTHEWS. There seems, if your Honors please, to be a difference of opinion as to the proper function of counsel in an important case of this sort. My brothers seem to think it sufficient for them to go through this case from beginning to end, through 12 printed volumes, perhaps, without the citation of an authority or any attempt to argue the questions of law as they present themselves. We, of course, may be entirely mistaken, but we think it is the function of counsel to render such assistance as they can to the Court from time to time during the progress of the case as these questions arise. In reference to the question of practice in these cases, where the construction of a statute is doubtful, and the Commission is asked by either side to permit the introduction of evidence, passing upon its admissibility at the end according to the view taken of the construction of the law, I suppose the Commission is familiar with the case, but if not, I would like to say that that is apparently what was done in the London Tramway case. That was apparently the practice adopted in that case, sanctioned by the Court, and also in other cases in Massachusetts.

Mr. GREEN. I will put a preliminary question now.

Q. Mr. Kirkpatrick, have you made an examination of land in Holyoke to ascertain if, in comparison with the present site of the Holyoke Water Power Company's gas plant, there is other land which, in size, shape, and elevation and other respects, is equally available and suitable for the purposes of a gas plant?

Mr. GOULDING. I object. It certainly cannot be possible that we are bound to spend our time hearing witnesses answer such questions as that. If they have got any particu-

lar lot that they want to describe and get his opinion that it is suitable for the purposes of a gas plant, on the principle that your Honor has just indicated, of course there is no use of any further discussion. But it cannot be possible that it is competent for the witness to come on and say there are plenty of other lots just as good as this, all really available for this purpose. It will be necessary to indicate specifically what lots you have in mind.

The CHAIRMAN. Make it specific.

Mr. GREEN. I have asked this witness if he made an examination for the purpose of ascertaining if there were other lots—simply an introductory question.

The CHAIRMAN. Let him answer yes or no. Have you, Mr. Kirkpatrick?

A. Yes, sir.

Q. What other lots, if any, and in what location are they, which, in the particulars mentioned, are equally available and suitable for the purposes of a gas plant?

Mr. GOULDING. How does this witness know what is available? Is he an expert gas constructor? He is not qualified.

Mr. BROOKS. He never has operated a gas plant.

Mr. GOULDING. If he wants to describe some lot he may describe it,—not get his opinion into it.

Mr. GREEN. I assume that an engineer of the city of Holyoke of Mr. Kirkpatrick's standing has sufficient familiarity with this to testify in regard to just that question.

The CHAIRMAN. Put some questions to him in regard to it.

Q. Mr. Kirkpatrick, you say you have been in Holyoke some twelve years? A. I say I have resided in Holyoke twelve years; I have been in Holyoke about all my life.

Q. And you are familiar with the city? A. I am.

Q. Are you familiar with the site of the present gas works? A. Yes, sir.

Q. Have you an opinion as to the availability and suitability of a piece of land as a site for a gas plant?

Mr. BROOKS. I object to that; whether he has or not cannot make any difference.

The CHAIRMAN. We admit it. Answer the question.

A. Have I an opinion? Yes, sir.

Q. Have you had any special experience with gas works, Mr. Kirkpatrick? A. No, sir.

Q. Are you familiar in a general way with the situation of gas works? A. No, sir.

Q. Are you familiar with the elevations and the lots? that is, on the principle of the elevation of a lot as employed in gas works? A. In the Holyoke gas works only.

Q. Have you examined other lots in Holyoke with a view of comparing their elevation with the present site of the gas works? A. Yes, sir.

Q. And their size? A. Yes, sir.

Q. And shape? A. There isn't another lot in Holyoke the shape of the present gas works lot.

Q. But in area of land and their elevation you have? A. Yes, sir.

Mr. GREEN. I offer his evidence.

Mr. BROOKS. We object to it.

The CHAIRMAN. We do not think it is competent, except perhaps for those two specific purposes. He does not indicate any more information on this subject than any other man.

Mr. GREEN. Well, that is very likely so; but your Honors cannot examine all the different sites in Holyoke, and here is a man who has examined these with a view of comparison in elevation and in area. And, by the way, one other question.

Q. And with a view of considering the soil for the purpose of laying a foundation and building upon it? A. Yes, sir.

Mr. GREEN. It seems to me he has studied these things in their essentials, but that has been brought in in Mr. Davis's testimony.

The CHAIRMAN. The most essential thing is that you have got to have a lot that will satisfy the requirements of a gas plant. That can be determined in a very short time. This gentleman is an engineer, and to that extent, of course, his judgment upon the ordinary things of engineering is worth something, but he has not qualified himself to testify as to whether,

in his judgment, he could give us an opinion any better than the ordinary man as to whether these different lots are available for a gas plant. Personally, I do not know what sort of a lot it requires to hold a gas plant, but apparently I know as much about it as he does.

Mr. GREEN. I assumed, after what your Honors had heard of the case, that you would be able, knowing the elevation of the lot, its size as compared with the size that you were studying, the suitability of the soil for building purposes, to pass upon just that question. Now, we shall not take the Commission up and introduce them to the various lots in Holyoke, and we have asked Mr. Kirkpatrick to look this over; and I submit that, having studied those factors in the case, he is entitled to state the situation of the lots.

Mr. GOULDING. The situation of the lots—that is a different proposition.

The CHAIRMAN. We do not seem to think that it will help us.

Mr. GREEN. I think I see a way of avoiding the whole difficulty without having any exceptions spread upon the records. I may have to recall Mr. Kirkpatrick later to help out some other witness who will qualify on those points.

The CHAIRMAN. Yes.

Q. Mr. Kirkpatrick, are there any difficulties in considering this lot that Mr. Davis has selected, the city lot, to putting those buildings there, owing to the presence of the sewers?
A. I know of none.

Q. What do you say of the lot selected, the city lot, so far as soil is concerned, for building purposes?
A. I believe it to be a good lot to build upon.

Q. Now, Mr. Kirkpatrick, I have here a blue print from among your papers marked "General Plan of Electric Light and Power Plant, Holyoke, Mass., J. J. Kirkpatrick, Engineer, Holyoke." Was that prepared by you?
A. Yes, sir.

Q. And drawn to a scale?
A. A scale of $\frac{1}{16}$ of an inch to the foot.

Q. What does that plan show?
A. That plan represents the buildings as they were located on the plan submitted by

the Company, or their plan of the electric light station; and it also shows the location of the lot line as described in the grant from the Water Power Company to the city—or their schedule.

Q. That is the plan of the premises? A. That is a plan of the premises. These dotted lines represent the plan of the lot.

Q. Now that is drawn to show what particularly? A. It is drawn to show that the foundations of the buildings in some places are outside of the lines of the lot offered.

Q. Is that a fact? A. It is.

The CHAIRMAN. I do not quite understand his answer. What does he say about that?

(The answer was read by the stenographer.)

The WITNESS. In other words, that the lot is not large enough to cover the foundations of the buildings.

Mr. GREEN. I offer this plan.

The CHAIRMAN. All right.

(The plan was marked "Exhibit III, W. L. H.")

Q. Will you show the Commission, using that plan, just how the foundations of the stack and some of the buildings are, relative to the division line which the Water Power Company have drawn in their proposed grant?

Mr. BROOKS. Any special building?

Mr. GREEN. The stack, I said, and any of the other buildings.

A. The stack—you mean the chimney?

Q. Yes. A. The distance between the lot line and the brick wall is 1.69 feet. The foundation wall of the chimney is 2.64 feet outside the lot line. On the wheel house the distance between the lot line and brick wall is .77 of a foot, the foundation about 4.48 feet outside of the lot line. The front of the dynamo room, the distance between the lot line and the brick walls, is .57 of a foot, the foundation 4.26 feet outside the lot line.

Mr. GREEN. If there is no objection, I would like to have you take that red pencil you have and mark the portions of the foundations which project beyond the proposed line.

Mr. BROOKS. He is going to mark it to scale, I suppose.

Mr. GREEN. No, it is all marked off. I asked him to fill it in with the red from his pencil, so it would attract attention.

Q. You have now filled in with a red pencil the spaces which show the projection of the foundations beyond the line of the proposed grant? A. Yes, sir.

Q. Reverting for a moment to Exhibit 110, will you explain something about the elevation of this? A. I see marked, on this plan marked Exhibit 110, 3 feet 6 below the surface, the sewer is, at Race Street at its intersection with Berkshire Street; and at the well of the sewer it is marked 10 feet below ground.

Q. Does it scale uniformly below the surface throughout, do you know? A. I don't know as I know about that.

By Mr. GOULDING.

Q. Well, give us the profile scale, will you? A. I couldn't give it to you to-night or just now. I will try to.

By Mr. GREEN.

Q. Here is a plan prepared by you? A. Yes, sir.

Q. I do not see that it is marked by any particular name. What does this plan show? A. It shows the general location of the buildings of the Holyoke Water Power Company's Cabot street mill and the electric light station, the testing flume, the property of the George R. Dickinson Paper Company, the location of the coal bin, which is partly on land of the Water Power Company, partly on land of the George R. Dickinson Company, and partly on land that is offered to the City in this schedule; the location of the tracks going to the coal bin and to other portions of the mill.

Q. Whether or not this is drawn to a scale? A. Yes, sir.

Q. And prepared by you? A. Yes, sir.

Q. And does it correctly represent the location of the various canals and railroads and buildings and passageways there? A. I believe it does.

Mr. GREEN. I desire to offer it, and will ask you to explain some things about it later.

(Plan marked "Exhibit 112, F. H. B.")

Q. In this drawing, Mr. Kirkpatrick, have you represented by any color of ink the land that the Water Power propose to convey under their schedule? A. Yes, it is represented in green.

Q. Your railroad, as I understand, is drawn there; that is, the existing railroad is drawn out on this plan? A. Yes, sir.

Q. Right at the end of the proposed lot nearest to the second level canal I see a square, or an oblong, rather, drawn in black ink. That represents what? A. That represents the coal bin of the present plant.

Q. And part of it on the Water Power land and part on the land of the George R. Dickinson Paper Company? A. Yes, sir, and partly on the land offered in the schedule.

Q. You represent in this the two level canals? A. Yes, sir.

Q. The first and second level canals? A. Yes, sir.

Q. And Cabot and Sargeant streets? A. Yes, sir.

Q. I notice between the wheel house and the dynamo room a couple of lines drawn which is marked "Testing flume penstock." A. That is marked upon the plans that were submitted by the Company with their plans of the electric light station. I assume the location of that is correct, because I took it from their plan.

Q. That was taken from their plan? A. Yes, sir.

Q. And you have dotted lines here which represent the location of the tailrace? A. From the present wheel house, yes, sir.

Q. That is two parts, is it? A. Yes, sir.

Q. I don't know as there is anything more in that, is there? A. No.

Mr. GREEN. Various rooms are marked with their names. I would like to ask Mr. Kirkpatrick a question about these plans again, if I might, there are so many here. (Conferring with the witness.) I do not think of anything further that we desire to offer except when the plans come which are not here. They will be here so that we can offer them in the morning.

Mr. BROOKS. I do not want to begin my cross-examination until your direct examination is completed.

Mr. COTTER. Will the plans be here to-morrow morning?

Mr. GREEN. They will be here to-morrow morning; yes, sir. That is, they were shipped; and they ought to be here unless there is something unforeseen.

Mr. COTTER. You have no objection to adjourning at this time?

Mr. GREEN. No, sir.

(Adjourned to Wednesday, Nov. 21, at 10 A.M.)

THIRTY-SEVENTH HEARING.

BOSTON, Wednesday, Nov. 21, 1900.

The Commission met in the Court House at 10 A.M.

JOHN J. KIRKPATRICK, *resumed.*

Direct examination by Mr. GREEN, continued.

Q. Will you state to the Commission the facts in regard to that plan, the one that Mr. Ellsworth drew? I expected to have it here this morning. A. I telephoned for the plan this morning to ascertain why it wasn't here, and I understood there was one map missing from the blueprints and they were waiting for favorable weather to make a blueprint; so I immediately ordered the originals brought on, and there is a man on the train now bringing them here.

Mr. GREEN. That is all I can say. They have been directed to express them down, and somebody had taken the authority of holding them until they could make a blueprint; so we telephoned this morning, as soon as we ascertained that, to send a man along with the originals and get them here. That table of comparative quantities is not here, either. That has not been sent down. I can only offer it when it comes. It is nothing but a tabulation of the quantities of Mr. Sawin and Mr. Walther, and Mr. Kirkpatrick, ranged side by side for convenience.

The CHAIRMAN. With that information can you cross-examine, Mr. Brooks?

Mr. BROOKS. Certainly.

The CHAIRMAN. You can put those in later.

Mr. GREEN. Oh, yes; they are coming. We hope to have them here by the afternoon.

The CHAIRMAN. Perhaps we can dispose of the question of Mr. Davis' testimony right here. We think we would be compelled to let that testimony stand, subject to being excluded, or

any part of it, later, if upon more careful investigation we think it ought to be. We think that so far as the evidence itself is concerned, so far as the reasons given by Mr. Davis go, it may stand—in giving his opinion, of course; and that some part, perhaps the whole of it, may stand to meet the petitioner's proposition that the cost of reproduction bears upon the market value. But independent of that, if it was offered as an independent proposition in itself, without the petitioner having first offered that evidence as to the cost of reproduction, we should not deem it admissible. That is to say, the evidence, we think, is pertinent, subject to future deliberation and change of opinion, as on the proposition of meeting the evidence of cost of reproduction. I do not know that I have made myself intelligible.

Mr. BROOKS. Your Honor will save us an exception.

The CHAIRMAN. Saving the rights of everybody, and stating in our report, of course, whatever we may do with this evidence.

Mr. MATTHEWS. May I inquire if I understand the ruling of the Commission, that the evidence of the cost of Mr. Davis' new plant is admissible, first, as part of the data which he himself used in forming his opinion of value; secondly, that it is admissible in itself to meet the evidence offered by the other side as to the cost to reproduce the present plant?

The CHAIRMAN. So far as it does meet it. That is, part of it we may not think meets it at all.

Mr. MATTHEWS. Yes; but for the purpose of meeting evidence of cost of reproduction of the existing plant it is admissible.

The CHAIRMAN. Yes.

Mr. MATTHEWS. And that for any other purpose the Commissioners think it is not admissible.

The CHAIRMAN. That is our present opinion.

Mr. MATTHEWS. But I do not understand that the Commission has made a final ruling either way, upon either of those propositions.

The CHAIRMAN. No; we treat it as evidence in the air largely, of course.

Mr. MATTHEWS. Yes, sir. That is to say, we are at liberty at the end of this case to argue that it is admissible for still further purposes.

The CHAIRMAN. Yes, exactly.

Mr. GOULDING. And we are at liberty to argue that it is admissible for no purpose whatever.

The CHAIRMAN. Yes, I understand.

Mr. MATTHEWS. May I inquire whether the Chairman meant that the ruling meant that up to date the Commissioners were of opinion that this evidence of the cost of a new plant was admissible to the extent that it met the evidence of reproductive cost—whether by that was intended that it should apply to the extent that it met the reproductive cost of the present plant in respect to value, or simply in respect to identical reproduction?

Mr. COTTER. To a contradiction of any testimony, inferential or otherwise, produced by the other side.

The CHAIRMAN. On the question of reproduction.

Mr. MATTHEWS. Not on the value?

The CHAIRMAN. On the question of both. Any evidence that they have offered on the question of reproduction, so far as your evidence, that is, the evidence of Mr. Davis, is pertinent in meeting that, we think it is admissible.

Mr. MATTHEWS. Well, upon the issue of comparative value?

The CHAIRMAN. Yes, or any element of the question. We are not trying to make any nice distinctions there.

Mr. MATTHEWS. Oh, I didn't understand the Chairman to make any nice distinctions, but I wasn't quite certain.

Cross-examination by Mr. BROOKS.

Q. You have, of course, taken a very active interest in this particular case, have you not? A. As a citizen and official, yes.

Q. Well, you have as a retained expert, haven't you? A. Yes.

Q. Then it is fair to say, isn't it, that you have taken an active interest in it in all kinds of capacities? A. Yes, sir.

Q. You have had to do with the retaining of various experts in the case? A. Not at all.

Q. Have not, upon your recommendation, certain men been seen who were alleged experts, and haven't you seen them on behalf of the city, and haven't their services been retained? A. I have recommended the employment of men.

Q. Yes; and you have hunted them up, haven't you? A. No, sir.

Q. You have been to see them, haven't you? A. No, sir.

Q. Not any? A. Not that I recall now.

Q. None in New York? A. Positively no.

Q. Or Philadelphia or Boston or anywhere? A. Not that I recall, except one in Boston when the case first opened, right after the city's voting to establish a plant.

Mr. GREEN. We object to this line of inquiry.

The CHAIRMAN. This is on cross-examination.

Mr. BROOKS. It is to show his interest. I am not inveighing against it any.

Q. And, generally, you have been active in consultation? A. Yes, sir.

Q. With the various gentlemen engaged in the case? A. Yes, sir.

Q. And when the question came up of a reference again to the people of the question last fall, you took a very active interest in the campaign? A. I did.

Q. Called the municipal lighting campaign? A. I did.

Q. And stumped the city? A. I did.

Q. In behalf of municipal lighting? A. In opposition to the proposed contract.

Q. And in behalf of taking these electric lighting and gas plants of the Holyoke Water Power Company? A. Yes, sir.

Q. And in your speeches you made the claim, did you not, for instance, that if the gas plant were taken you had a customer to whom you could sell it for \$500,000 right away?

Mr. GREEN. I object.

The CHAIRMAN. I think that is competent. This is said to be his declaration.

Mr. GREEN. This witness is not here to testify as to the value of the gas plant. He is simply testifying in regard to the value of the buildings.

The CHAIRMAN. I understand. I think it is admissible.

Mr. GREEN. I would like to have an exception saved to that, if your Honors please.

A. I never made any such claim or statement.

Q. Did you say, in the course of your various speeches

throughout the city, that if the city were called upon to pay \$500,000 for the gas plant it was then a good investment? A. I never expressed an opinion of the value one way or the other.

Q. That is hardly an answer to my question. A. Will you repeat that?

(The question was read by the stenographer.)

A. I did not.

Q. Anything of that nature? A. Nothing whatever.

Q. And you did not say, in substance, that if the city were compelled to pay \$500,000 for the gas concern, that it would then be a good investment? A. I said nothing of the sort.

Q. And you did not express, and never have expressed an opinion, that for that, if the city desired to sell it, they could obtain \$500,000? A. I never did.

Q. Did you ever express that publicly or privately—that opinion? A. No, sir.

Q. Did you make the suggestion in speech, public or private, that the city could dispose at a profit of the gas and electric concerns of the Holyoke Water Power Company, reserving, however, the municipal lighting part of the plant or plants?

A. No, sir. I will tell you what I did say along that line.

Q. I am asking you if you said that in substance? A. I did not.

Q. Did you say, in substance, that it would be well for the city and profitable for the city to take these two plants, and to dispose of the commercial features of the plants, reserving the municipal lighting part of the plant? A. I expressed my opinion.

Q. Just answer me that. A. I cannot without giving you the detail of it very well.

(The question was read by the stenographer.)

A. I said that that was my opinion of what the city ought to do.

Q. Did you say, in substance, that they could take these plants at a large valuation and dispose of all but the municipal features of the plants, at a profit, in your opinion? A. I did not.

Q. Mr. Kirkpatrick, after the act was passed last winter by the legislature referring to the people for their approval or disapproval the contract entered into between the Holyoke Water

Power Company and the city for municipal lighting, did you say that a New York company—in substance this—“stands ready to buy the gas plant when it becomes the property of the city and pay \$500,000 for it?” A. I never said any such thing.

Q. Did you at any time see in one of the daily papers of our city, the Morning World, this statement: “The ex-city engineer is also authority for the statement that a New York company stands ready to buy the gas plant when it becomes the property of the city, and pay \$500,000 for it?” A. I remember seeing that, yes, sir.

Q. Did you ever deny it? A. I did not.

Q. You understood that the ex-city engineer referred to you in that piece? A. I don't know as I understood any such thing. There are several ex-city engineers.

Q. Well, then, I will see. I will read you more.

The CHAIRMAN. Mr. Brooks, you must limit yourself in this style of examination with reference to declarations made in a paper. This man is not responsible for a declaration made in the papers. You have asked him whether he contradicted it or not, and he says he has not.

Mr. GOULDING. We now ask him whether he understood that that statement referred to him.

The CHAIRMAN. All right; go ahead.

Q. I will read you more of the article: “According to ex-City Engineer J. J. Kirkpatrick, the Water Power Company has agreed to abide by the decision of the Supreme Court,” etc. “The ex-city engineer is also authority for the statement that a New York company stands ready to buy the gas plant,” etc., the same as I have read. You understood that the ex-city engineer referred to ex-City Engineer Kirkpatrick, didn't you? A. I do now.

Q. You did then when you read it? A. Not when you read it.

Q. Didn't you when you read it originally? A. I did when I read it originally, yes, sir.

Q. When did you make the two schedules of valuation for the gas and electric plants that have been introduced in this case? I mean the structural value of the buildings that have been introduced in this case? A. I should judge a year ago

or so, some of it, and some of it later, and some of it probably prior to a year ago.

Q. When was the schedule completed? A. Probably about a month ago.

Q. I see there are various corrections made in these schedules? A. I don't recall but one, and that one leads to a few others.

Q. If there are any corrections, when were the pencil corrections made in your schedule? A. I think those were made yesterday morning, Mr. Brooks, before—

Q. Then, of course, you really completed your schedule yesterday morning? A. I corrected that schedule yesterday morning.

Q. And you completed your corrections yesterday morning? A. Yes, sir.

Q. And those were corrections in prices, were they not? A. Yes, sir.

Q. This, of course, is your first experience in the valuation of gas and electric light properties? A. Yes, sir.

Q. Now, running down through to your electric plant for a moment, will you let me see the plan of that ideal site? A. Ideal site for electric light plant?

Q. I will change that:—for the gas plant?

Mr. GREEN. Haven't you it?

The WITNESS. No, sir, I haven't it.

Mr. GREEN. I don't know but this is it (handing tracing to Mr. Brooks).

Q. (Showing profile to witness.) What is the scale of your profile, can you tell us this morning? A. I called the city engineer's office last night to ascertain, and they were all out.

Q. Then perhaps you cannot tell me this morning? A. I cannot, unless I get it from a rule.

Q. Well, if you can tell me in any way what the scale of that profile is, I will be obliged to you. A. I should say the vertical scale is about 20 feet to the inch. I am not positive about it, but judging from these figures that are shown, 71.38 and 61.71, it measures practically half an inch.

Q. That, of course, is subject to correction. You think about 20 feet to the inch? A. Yes, sir.

Q. And the longitudinal scale? A. That is the longitudinal scale, vertical scale, horizontal scale; I think that is 20 feet to the inch.

Q. You think the scale of your profile is 20 feet to the inch? A. I think so, but I would like to correct it later if I find I am wrong.

Q. Yes. Did you make any measurements, personal, accurate measurements to determine how far below the surface of the earth the top of either of those sewers was? A. I did a couple of years ago, yes, sir.

Q. Well, is this map the result of the measurements that you made of this ideal spot a couple of years ago? A. This map is the result of office records and some measurements that I made.

Q. Now, what I am after: You have testified, as I understand you, that the sewer, the top of the sewer below the surface of the earth runs from four to nine feet? A. I later corrected that, and said that the plan indicated at the intersection of Berkshire and Race Streets the sewer was three feet and a half below the surface.

Q. Then you would say the sewer ranged over this land, this ideal or selected spot for gas works, from three and a half to nine feet? A. It is ten feet below the ground at the well.

Q. Then do you say now that it is from three and a half feet to ten below the surface of the earth? A. I think that is correct.

Q. Now, what I want to get at is, did you ascertain that fact by actual personal measurement? A. I believe I did.

Q. Are you certain about it? A. Well, I certainly know that is all in my handwriting, and I would not have put it down unless I ascertained it.

Q. You may have ascertained it, but I am confining myself, you see, to the question whether or not you ascertained the depth of the top of the sewer below the surface of the earth from actual, personal measurement? A. I went down there, and I cannot say what I did.

Q. Now, will you be kind enough to take your profile scale, and ascertain from this plan, if you can, the depth below the surface of the earth of the top of this sewer? Of course, you

understand, Mr. Kirkpatrick, I mean the top of the brick work of the sewer below the surface of the earth at the different points from the Union Basin, so called, down to Berkshire Street? A. These measurements are something you cannot ascertain correctly. I should say it would run from about three to five or seven feet.

Q. What? A. From three to five to seven feet.

Q. Well,— A. According to that profile. You cannot get that correctly.

Q. Beginning at the Basin. A. Beginning at a point opposite to the Basin? I think the Basin is not shown on the profile.

Q. I understand that, but can you give me the depth below the surface of the earth of the top of the brickwork of the sewer at a point near the Basin by using your profile scale? A. I should say it might be about seven feet, according to this scale.

Q. Yes. You would not want, perhaps, to abide by that. A. I don't want to abide by that profile at all.

Q. Oh, I see. A. Because it is—

Q. If you measured to ascertain the distance from the surface of the earth of the top of the brickwork of the sewer, have you any memorandum showing the results of your measurement? A. Not with me.

Q. Have you in existence? A. I don't know but that would be found in the records of the city engineer. I believe I was city engineer at the time those measurements were made.

Q. You think that it could be found in the records of the city engineer? A. I am inclined to think so.

Q. Well, now, I want to ask you whether or not you have made an examination of the records of the city engineer in recent months with reference to the sewer and the depth of it across this particular spot of land?

Mr. GREEN. Just a moment; will you read that, please?

(The question was read by the stenographer.)

Q. Did you want that question repeated to you? A. I thought there was an objection or something.

Mr. GREEN. No, I didn't object; my attention was diverted for a moment, and I wanted to know what the question was.

Mr. BROOKS. (To the stenographer.) Will you read it for him, please?

(The question was again read by the stenographer.)

A. No, sir; I have not.

Q. Have you ever, so far as you recall, made an examination of those records with reference to the depth—with reference to the top of the sewer from the surface of the earth? A. I certainly must have done so to make this plan.

Q. Well, do you recall that you did do so? A. I don't know that I could say that I did at a certain month or date.

Q. I don't care about that. Can you recall that you ever did that for the purpose of making that plan? A. I remember consulting those plans, yes, sir.

Q. Now, do you say that this plan showing the sewer upon this lot was made from the records of the city engineer? A. And from measurements that I made, yes, sir.

Q. Well, how much was which? A. I think principally the record.

Q. Of the city engineer? A. Yes, sir.

Q. Would it surprise you—I take it that it might—if you found that the depth of the top of this sewer from the surface of the earth near the Basin, for instance, was only between one and two feet? A. I think it would, yes.

Q. It would? (To Mr. Green.) Let me see this other plan. (Plan handed to Mr. Brooks.)

Q. I will show you this, first, which is a representation of the cross-section of the sewer over this ideal spot. Does that resemble it? (Plan shown to the witness.) A. It looks very much like the sewer that was built there, yes, sir, or a plan of the sewer that was built there.

Q. Yes. A. There is also another sewer in there, the Front Street sewer.

Q. There is a difference in the sizes of the two sewers? A. Yes, sir.

Q. And this would be the larger sewer? A. Yes, sir.

Q. Do you know what the diameter of that sewer is? A. Which one?

Q. Of the larger sewer? A. Ten feet.

Q. Well, now, according to this plan, the average depth of the sewer—the top of the brickwork of the sewer below the surface of the earth would be only two and seven-tenths feet? A. According to that plan I believe that is true.

Mr. BROOKS. I want to put that in.

Mr. GREEN. Well, I don't know about your putting it in. It may be all right, and it may not. I don't think it is sufficiently proven here to be put in as an independent piece of evidence—drawn by Mr. Sawin.

Mr. BROOKS. Why, of course.

Mr. GOULDING. It might be marked for identification.

Mr. BROOKS. I don't care which way it is done.

Mr. GREEN. If it is marked for identification I don't object.

Mr. BROOKS. It is immaterial to me.

(Marked by the stenographer "Identification, E. L. D., Nov. 20.")

Mr. BROOKS. Now I have that marked for identification, it would be a little more convenient for us if it were to go in as an exhibit and go in in its order, subject to being excluded hereafter.

Mr. GREEN. Not knowing what is on that plan, I don't feel that it should go in as evidence.

Q. I show you a map of this, what purports to be this ideal land for gas works, which land it is said is owned by the city of Holyoke, and looking it over, would you say that that was correct? A. It resembles it.

Q. So far as you can say, it is a correct representation? A. I should say it was.

The CHAIRMAN. What is that?

The WITNESS. A plan of the same lot.

Mr. BROOKS. I want to offer that plan now. I think I have laid the foundation for it.

Mr. GREEN. I object to its being offered in evidence. All we know about it is that Mr. Kirkpatrick says it resembles this lot.

Mr. BROOKS. He says, so far as he can perceive it is a correct representation.

The CHAIRMAN. Who drew the plan?

The WITNESS. It is marked "W. E. Sawin."

The CHAIRMAN. You may have it marked for identification now. I do not see that it makes any difference, but—

Mr. BROOKS. I thought it would be a little more convenient, perhaps, for reference to have it go in, because it comes so nearly to Mr. Kirkpatrick's plan.

The CHAIRMAN. It may be marked as a matter of identification merely.

Mr. BROOKS. Mark this for identification, please, Mr. Stenographer.

(Marked by the stenographer "Identification No. 2, E. L. D., Nov. 21.")

The CHAIRMAN. You can use these as a chalk.

Mr. BROOKS. Oh, yes, I understand.

Q. Mr. Kirkpatrick, taking this last plan that I have shown you, which has already been marked for identification, will you be kind enough to tell the Commission what the depth of the top of the brickwork of this sewer is below the surface of the earth as shown by the plan, beginning with the Basin and running down the sewer to Berkshire Street? A. At the Union Basin is marked, "Elevation of man-hole, 75.80;" "Elevation of ground, 73.70."

Q. What would be the depth of the sewer, if you can tell me from an examination there and making such measurements as you consider desirable?

Mr. GREEN. You mean as shown on this plan?

Mr. BROOKS. As shown on the plan, that is, the depth of the top of the sewer below the surface of the earth. A. There is a note on here which says, "See Section." I don't know where that section is.

Q. Would this be the one, do you think (showing plan to witness)? A. No.

Q. It is the one that that refers to. A. Oh, it is?

Q. Yes. A. That merely gives a section of the sewer.

Q. Take them both together, and tell me what the depth, according to these plans that I have shown you, which have been already marked for identification, is of the top of the brickwork of the sewer below the surface of the earth. A. I don't think there is anything on that map that—

Q. Take them both together. A. That I can see now that will show it: There is a elevation of the sewer, 61, at Berkshire, which is the Front Street sewer, and the grade of the street, 66, a difference of 5 feet. There is nothing at that point that would show the elevation of the ten-foot sewer.

Q. Taking the two together, you say you have not got suffi-

cient data there to tell you what the depth of the top of the brickwork of the sewer is below the surface of the earth? A. The top of this section (referring to the tracing) reads, "Average Elevation of Ground, 69.00. Elevation, top of Sewer, 66.30." The difference between that is 2.70. I don't know whether that is the average elevation of the top of the sewer or not.

Q. Isn't there any data upon that plan from which you can give me the various depths of this large sewer below the surface of the earth? A. There is a number of places where the elevation of the ground is marked, but I don't see any point that shows the elevation of the top of the sewer.

Q. Is there any way that you know of in the skill of engineering by which you can ascertain the depth of the sewer below the surface of the earth from those two plans? A. Unless I take the elevation as shown on this section for the top of the sewer. It is 66.30.

Q. Is there anything there that shows you that the sewer drops six inches in a hundred feet, on either of those plans? A. I may be blind, but I cannot see it.

Q. I will show it to you, if I can find it. "Grade of Sewer,"—I call your attention to this, "Grade of Sewer 6 inches in 100 feet." A. Yes, that is marked on the section.

Q. Well, assuming that that is correct, will you be kind enough to tell us what the depth of the top of the brickwork of the sewer below the surface of the earth is at the Basin, Union Basin, and then at intervals of 100 feet to Berkshire Street? Do you want some paper, Mr. Kirkpatrick? A. If you please. Thank you. On the plan—

Q. When you have worked it out just give me an intimation of it. You understand the question? A. I worked it out first at the Union Basin—

Q. Wait a minute. (To the stenographer.) Just read him that question, and perhaps he can give me an answer that will cover it all.

(The question, "Well, assuming that that is correct, will you be kind enough to tell us what the depth of the top of the brickwork of the sewer below the surface of the earth is at the Basin, Union Basin, and then at intervals of 100 feet to Berkshire Street," was read by the stenographer.)

A. I don't think it is possible to give you that from what I see on these plans. I can give you the difference between the elevation of the ground and the top of the sewer at the Union sewer; I believe that to be six and four-tenths feet from these plans.

Q. If there is the fall indicated by that scale, cannot you give me the distance from the surface of the earth to the top of the sewer for every hundred feet? A. Yes, sir, if you will give me the fall or rise in the ground for every hundred feet.

Q. Well, I will start off by asking, what is the distance from the surface of the earth to the top of the brickwork of the sewer at the Union Basin, according to these plans that I have shown you? A. Will you tell me first if that elevation marked on there, 66.30, is the elevation of the top of the brickwork at the well at the Union Basin?

Q. Yes.

Mr. GREEN. Well, do you say it is?

Mr. BROOKS. He asks me; I assume it is. Whatever it says on the plan, it is. I assumed it said that on the plan.

The WITNESS. It also says on the plan that the elevation of the ground at the Union Basin is 73.70. Take 66.30 out of that, and it leaves 6.4 feet.

Q. So you say that according to these plans, the distance from the surface of the earth to the top of the brickwork of the sewer is 6.4 feet? A. If that elevation there is the elevation of the top of the brickwork—I mean by “that elevation there” I mean elevation shown on the section, 66.30.

Q. That is, “elevation top of sewer, 66.30?” A. Yes, sir.

By Mr. GOULDING.

Q. What is the elevation of the ground? A. Marked on here “elevation of ground, 73.70.”

By Mr. BROOKS.

Q. Now, running along down through every hundred feet, tell me what it is. Have you any way of doing that with those two? A. I don't see but that in order to answer that question I must have a profile of the ground over the sewer. There is nothing on any one of these plans that will give the elevation of the ground over the sewer that I can see.

Q. Take the elevations that are on the plan; you have them marked there, haven't you? A. Not over the sewer, no, sir.

Q. Well, near the sewer, on both sides of the sewer? A. They are a long distance away. There is an elevation of ground marked 68.90; that is 50 feet away from the sewer.

Q. Very well; I will run it along with you. Begin at Berkshire Street; what is the depth from the surface of the earth of the top of the sewer on this land at Berkshire? A. I find the elevation of the ground is marked on the plan 66.00. If the sewer falls six inches in 100 feet, the elevation of the sewer at that point would be about 64.30, making a difference in elevation of about 1.70.

Q. One and seven-tenths feet? A. Yes, sir; that is, if I figured it right.

Q. What? A. If I figured it right.

Q. Oh, yes. Now, is this lot practically level with the exception of the filling near the streets? A. According to my remembrance of it, or this plan?

Q. I will take your remembrance of it. A. My remembrance of it is that it is practically level.

Q. So that the depth of the sewer would be practically the same, allowing for the fall, over the various parts of the lot? A. I think that would be pretty nearly true.

Q. What is the character of the soil in this ideal spot? A. As I remember it, it is a sandy soil.

Q. Well, there are two kinds of sand, as I understand it, sand and quicksand. A. Yes, and coarse sand.

Q. Well, I had in mind the two kinds. Is it a quicksand soil? A. I don't believe it is, no, sir.

Q. Have you ever made an investigation to determine? A. I was one of the assistants in the city engineer's office when that Front St. Sewer was put through there.

Q. I say, have you ever made any investigation to determine the character of the soil?

Mr. GREEN. I think he was answering.

The CHAIRMAN. He was answering your question by saying he was one of the assistants when the sewer was put through there—

Mr. BROOKS. Perhaps that answers it, but—

The CHAIRMAN. (To the witness.) Complete your answer.

The WITNESS. My remembrance of it was that it was not quicksand. It was good, suitable soil to construct a sewer upon.

Q. Did you make an investigation while you were city engineer? A. No, sir, not of the sub-soil.

Q. Of the character of this land? A. No, sir.

Q. And do you remember a time when the sewer burst, when it caved in in this immediate vicinity by reason of the quicksand? A. It was not in that immediate vicinity.

Q. How far away? A. Four or five hundred feet, roughly.

Q. Whereabouts was the break with reference to this lot? A. Considerable of a distance south of it.

Q. About four or five hundred feet away from where? A. From this lot.

Q. Four or five hundred feet south of this lot? A. I think so.

Q. This was a table of sewers gotten out by you as city engineer, was it not (showing witness a printed table)? I will show you the part of your report that it is taken from. A. I think so, yes, sir.

Q. What? A. I think so, yes, sir, as gotten out from some of the records.

Q. It comes from your report? A. It is a copy of the records.

Q. A copy of the records, yes. I want to call your attention to an item here in this report: "Berkshire Street and city lot." And running along here, the material and the excavation. You say "quicksand and sand," don't you? A. I didn't say that. It is a copy of what somebody else says.

Q. Was that a part of your report to the city? A. It was, yes, sir.

Q. Well, was it true? A. My report on this particular—

Q. Was this true? A. I could not say, because I have taken that from the other city engineer's—

Q. You took it as true? A. I took it as reported.

Q. If you knew differently you would not put it in, would you? A. I had no right to change the record.

Q. But this was a part of your report of the sewers and their character. A. Part of my predecessor's—

Q. Character of the soil—

Mr. GREEN. Let him answer.

The WITNESS. Part of my predecessor's report, tabulated by him for the purpose of getting all the sewers in the city under one tabulation.

Q. And who was your predecessor? A. Mr. Walther.

Q. The Mr. Walther that has testified here? A. Yes, sir.

Q. And this is a part of the record of the city engineer's office? A. Yes, sir.

Q. And you assumed this in making your report? A. I never changed it.

Q. You assumed it then, didn't you? A. I think that is correct.

Mr. BROOKS. I would like to introduce this in evidence.

Mr. GREEN. I object.

The CHAIRMAN. What is it? You object to that, do you?

Mr. GREEN. Yes, sir.

Mr. BROOKS. And I offer it.

The CHAIRMAN. I don't see but you have got all that is necessary, Mr. Brooks, anyway.

Mr. BROOKS. That may be. I don't care to have this printed, but I offer this as an exhibit. I think I have got a right to—

The CHAIRMAN. This is from his report?

Mr. BROOKS. It is a part of his report that he took from the records of the city engineer's office, it is fair to him to state.

The CHAIRMAN. We will hear you on it, Mr. Green, if you care to.

Mr. GREEN. I don't see anything in this document which they have here, which they have offered—if you will allow me to take it, Mr. Brooks—which on the testimony of the witness is competent to be admitted in evidence. He has stated in regard to this document that he prepared a table, or had a table of sewers prepared, which he stated was put in the records of the department. Now, it does not seem to me that that has any bearing upon his own personal testimony. It is simply putting in print certain things which he found on record.

The CHAIRMAN. He did not make this report himself? It is offered here, I suppose, for the purpose of contradicting him.

Mr. GREEN. He did not make the report from his own investigation; he simply reported facts which he found, or records, rather, which he found.

The CHAIRMAN. He has already stated that.

Mr. BROOKS. We think it is admissible as a declaration made by him.

Mr. GOULDING. You remember that he testified that his investigation as to whether this was sand or not was made while he was an assistant engineer. I suppose that was before he was city engineer. Now, it is a matter of argument how much force there is in the fact that he allowed a tabulated, a false statement in regard to this lot to go in.

Mr. GREEN. Well, how much of this is offered? I don't know what is on this; is there anything offered here except that which is underlined, Mr. Brooks?

Mr. BROOKS. That is all I care specifically to offer. Of course it is a large table. I have called attention to one particular item.

The CHAIRMAN. For the reason we have already stated, we will admit it. You can have the whole put in, Mr. Green, if you desire it?

Mr. GREEN. Oh, no, unless we find something important in it it would be too bad to encumber the record with that.

(The schedule was marked "Ex. 113, F. H. B.")

Q. This was a part of your report for the year 1896? A. I don't remember what year—part of my report of one year.

Q. Well, the year '96? A. I don't remember.

Q. I will call your attention to the place where it is torn out (showing book to witness). A. I think '96, I think that is correct.

Q. I don't know but you have already answered me that you had something to do with the building of this sewer? A. Which sewer?

Q. This particular sewer about which I have made inquiry. A. The 10 foot sewer? No, sir.

Q. You did not? A. Not guilty of having anything to do with it.

Q. Did you go with Mr. Davis when he went to this particular lot? A. I did, yes, sir.

Q. Do you know how much puddling was necessary over this lot for this sewer? Look at this cross-section, if you please, and tell me as nearly as you can according to what that shows.

A. I never thought any such amount was necessary as they did.

Q. How much puddling was done for this sewer over that lot, according to the cross-section which I have shown you? A. According to the cross-section there was about 4 feet in depth, I should judge.

Q. About 4 feet of puddling? A. I should say 4. What is that scale, an inch to the foot?

Q. Yes. A. Yes, that is 4 inches.

Q. And there was piling put in there, was there not? A. Yes, sir.

Q. And what do these squares on top of the piling represent? A. They represent the timbers running the other way.

Q. Why, in your opinion, was that piling and that grillage and that puddling done there? A. To spend a lot of useless money—to spend a lot of money uselessly.

Q. Did it occur to you that it might be on account of the character of the soil? A. It had not, no.

Q. Would it now? A. It might, yes, sir.

Q. And what kind of soil would it occur to you would render this piling and puddling and grillage necessary? What would be the character of the soil? A. A soil unfit to build upon without preparing such a foundation.

Q. Did I ask you that?

Mr. GREEN. I thought you did.

Mr. BROOKS. I did not. I ask to have the answer stricken out.

The CHAIRMAN. That is all right.

Q. Very well. I ask you now what character, what kind of soil? Would it occur to you that quicksand soil would render such work necessary? A. I believe it advisable to take such precautions in quicksand.

Q. Is there any other kind of soil that would render this puddling and grillage and piling necessary? A. Yes, sir.

Q. What? A. A loose clay would.

Q. What? A. A clayey soil sometimes requires it, and a semi-liquid soil.

Q. And you say also a quicksand soil. Well, do you say that quicksand is good soil to build on? A. If it can be confined, I believe it is, yes, sir.

Q. And perhaps you agree it can be done as cheaply as upon more substantial soil? A. What can be done as cheaply?

Q. Building, foundations. A. I don't think there would be a very great difference.

Q. You say there wouldn't be much difference? A. Not if the quicksand is confined, no, sir.

Q. Haven't you necessarily, if there is any considerable quicksand, got to expend much more money for foundations? A. Usually, yes.

Q. Have you figured on how near any of the buildings that Mr. Davis will erect in his mind upon this ideal plant would come to either of the sewers or to the Union basin? A. No, sir.

Q. Will you be kind enough to tell me where these buildings that Mr. Davis is going to erect would be situated with reference to the sewers and the Union basin? A. I cannot.

Q. Can't you by looking at this plan? A. I don't believe the Union basin shows on this plan.

Q. Well, take all the plans. Take perhaps your own map and Mr. Davis'. A. If you have got a plan of the same scale as Mr. Davis'.

Q. Well, will you look at this, which has been drawn rather hastily, but accurately, as I am informed, and if you assent to it— A. That is not the same scale as Mr. Davis'.

Q. Would it make any difference? A. Oh, my intention was to lay it out over his.

Q. Is this a tracing of your plan with the exception of the buildings? You can take your plan and see. Is the plan I now show you a tracing of your plan with the exception of the location of the building? A. Well, roughly, yes, it is—intended to be.

Q. Now I will repeat my question. Where, with reference to the sewers and the Union basins, do any of the buildings that Mr. Davis would erect upon this selected gas site come? A. As indicated on this plan, there is a holder of 250,000 cubic feet capacity over the sewers.

Q. Over both sewers? A. I said "sewers," yes. The coke shed, a portion of it, is also over the sewers.

Q. Over the sewers. A. A portion of the coal shed is also over the sewers. An oil tank is over, or under, I don't know which, the Front Street sewer; and the Union basin is not over or under anything.

Q. How near does any building come to the Union basin, that Mr. Davis would erect? A. I should say 10 feet.

Q. And what building is that that comes within 10 feet of the Union basin? A. Meter and office.

Q. That is what is called the meter and office building. How near does that building come also to the larger of the two sewers? A. Two or three feet.

Mr. BROOKS. Has your Honor seen this? I would like to have you, if you please. This is a tracing of Mr. Kirkpatrick's plan, with the buildings as Mr. Davis has them upon his plan, located as we have them. Now I will offer this for either identification—

The WITNESS. I said that is a tracing of mine; but it is a tracing of mine with the buildings put on.

Mr. BROOKS. I understand. That is what I say.

The CHAIRMAN. Why not use it as a chalk?

(Plan marked "Exhibit 3 for identification, W. L. H.")

Q. What is the depth of the smaller of those two sewers, from the surface of the earth? A. I have nothing here that will show, that I know of.

Q. Have you anything that will show? A. With me? Not that I know of.

Q. Do you know? If you do not I won't say anything about it. A. I don't know that I do, no.

Q. Have you made any investigation of the weight of these buildings that come over these sewers, or either of them? A. No, sir.

Q. And you cannot approximate the weight of the buildings over the sewers? A. I can calculate it; I cannot approximate it.

Q. Well, can you, from anything that you have at the present time, calculate the weight of the buildings upon the sewers? A. Not unless I should take Mr. Davis' plan and go all over them.

Q. That would be a matter of considerable time? A. Yes, it would.

Q. You have made no investigation yourself to determine the weight of the buildings upon the sewers, as I understand you? A. No, sir.

Q. Would you think it was the proper thing to do before you came to an opinion as to whether or not the buildings should be built there? A. Not necessarily, no, sir.

Q. Well, wouldn't you think it was a proper thing to do? A. Why, no.

Q. A matter of good practice, in good engineering? A. No; suppose a man had that lot to build on, and was going to build on it, he would prepare his foundations in accordance with what he found there.

Q. Yes; but before you came to a conclusion or estimated on the cost for the building there, wouldn't you consider it desirable to know the weight that was going to rest on the sewers? A. Before I estimated the cost I think I would, yes.

Q. And if you discovered that the soil was in such condition that the buildings would necessarily have to be piled and puddled, and one thing and another, would you say that would add very materially to the cost? A. If I found the condition to be such, yes, sir.

Q. How did you get at your quantities in your various estimates of both gas and electric works? A. I figured the quantities myself.

Q. Did you take them from the plan? A. I think so, yes, sir.

Q. From which plan? A. I believe I took some of them from a plan prepared by Mr. Ellsworth for the gas works, some of them from the plan prepared by Mr. Walther, and the others from the plan prepared for the electric light station.

Q. That is, is it fair to say that you took some of your estimates from the plans made by Mr. Ellsworth and by the Holyoke Water Power Company for the two plants? A. Well, that is hardly fair, because Mr. Ellsworth didn't make any plans of the two plants.

Q. Well, then, I will change my question. In making your estimates, did you make them from plans furnished both by the city and by the Holyoke Water Power Company? A. Partly, yes, sir.

Q. Partly from each? A. Partly from each.

Q. Why did you pursue that course? A. When we first commenced figuring on this case the Company had prepared no plans—at least, that I had possession of—and I had plans prepared while I was city engineer—

Q. Those are the Ellsworth plans? A. Yes, sir; and I made some of my computations from those, and afterwards, when the Company submitted plans after the first session, or hearing, I believe I made some computations from those plans.

Q. Now, what computations which form a part of your estimates, are made from the so-called Ellsworth or city plans, and what from the Company's plans? A. I could not say.

Q. Is there any way by which you could ascertain? A. No, sir.

Q. The so-called Ellsworth plans have never been introduced into this case? A. Those are the ones I have got a messenger—

Q. Those are the ones you are waiting for? A. Yes, sir.

Q. By an inspection of those could you tell me what part of your estimate was formed from an inspection of the Ellsworth plan? A. If I went through my entire estimate I could. I do not believe a casual inspection would tell me.

Q. Well, you had no means of ascertaining or of approximating how much of your estimate is made up of Ellsworth and how much of Holyoke Water Power plans? A. No, sir.

Q. In reaching your conclusions as to prices, I understand you, you consulted some contractors? A. I have, yes, sir.

Q. When did you go into consultation with any contractor in order to reach your conclusion as to prices of labor and material? A. I think those prices were set at the—

Q. Were what? A. Set—made, fixed.

Q. Oh, I thought you said "sent." A. During the summer of 1899.

Q. And with what contractors did you go into consultation in arriving at these conclusions as to prices? A. The contractor for stone work was George I. Bosworth; for brickwork, O'Connell & Sons and George W. Richards; and lumber, Casper Ranger.

Q. Is he the gentleman who is present here this morning? A. Yes, sir. I obtained prices from the Merrick Lumber Com-

pany, prices from H. P. Street; I don't recall any other just now. And excavation from Daniel O'Connell, Jr., of the firm of D. O'Connell & Sons. I do not recall any other just now.

Q. You took the various prices and struck an average, did you? A. I don't remember about that.

Q. You cannot tell? A. I don't remember.

Q. Can you tell me the prices that were given in these various consultations? A. Yes, sir.

Q. Were they given in writing? A. Yes, sir.

Q. Are those here? A. Some of them are, I believe.

Q. Well, where are the rest of them? A. I don't know. I found some of them in my grip; I don't know where the rest of them are. This is a long time ago.

Q. Oh, I understand that; I am not finding any fault. Can't you now say whether or not you struck an average in arriving at your conclusion as to prices? A. I do not recall whether I did or not.

Q. You cannot tell me how you arrived at this conclusion for particular special prices that you have in these various schedules? A. Only that I obtained my information principally from the local—

Q. Yes, I understand you; and it was the result of all the interviews? A. Yes, sir.

Q. That led you to fix upon these prices? A. Yes, sir.

Q. Now in your schedules I see you allow 10 per cent. for contractor's profits? A. Yes, sir.

Q. What allowance have you in these schedules for engineering and superintendence, if any? A. In considering that—

Q. Excuse me a minute. Are you looking at the schedule that is introduced in this case? A. The manuscript schedule.

Q. Well. Now, where in your schedule does there appear an allowance for engineering and superintendence? A. There is no such item specifically stated.

Q. Is 5 per cent. an unfair allowance for engineering and superintendence? A. No, sir.

Q. Is that the usual allowance? A. It is the fair, reasonable profit, I believe.

Q. Is it the usual, or is the usual more? A. The usual in Holyoke is less.

Q. Is what? A. Is less.

Mr. COTTER. The usual in Holyoke, he says.

Mr. BROOKS. Oh, I see.

Q. Well, whom do you know of that has ever constructed works or had to do with the construction of works of the magnitude of this for gas and electricity that has not allowed 5 per cent. for engineering and superintendence? A. I don't know a man that ever built a gas house anywhere but what I have heard of in connection with this case.

Q. Then you do not know what would be the usual allowance for a job of this kind for engineering and superintendence?

A. Not for gas and electrical purposes, no, sir.

Q. What did you allow for interest during construction in your schedule, if anything? A. Nothing at all.

Q. What did you allow for insurance? A. None, specifically.

Q. Well, is there anything occult in that word "specifically"?

A. Well, there are other allowances in there that I will explain later on or now, if you wish me to.

Q. There is no allowance made in your schedule, so far as is apparent, for any of these matters about which my inquiry is made? A. No, sir.

Q. What is the usual allowance in the building world for contingencies? A. For contingencies, 10 per cent.

Q. Is there any such allowance apparent in your schedule? A. There should not be.

Q. Did I ask you that?

The CHAIRMAN. He asks you whether there is or not apparent in your schedule.

A. No, there is not.

Q. I noticed that you used a notebook yesterday in the course of your testimony, or a memorandum, did you not? A. Yes, sir.

Q. For what purpose? A. Reading off to you the depreciation—

Q. Not to me. A. Reading off the depreciation for each item per annum.

Q. Yes, I see. I will take that up a little later on, perhaps, with you. But I will ask you now, you assumed a depreciation, as I understand it, of \$1 on a hundred? A. No, sir.

Q. Where there was a building that was to last a hundred years? A. Buildings to last—

Q. I understood you to say so yesterday afternoon. A. \$1 a hundred?

The CHAIRMAN. That is, at that rate.

A. I assumed the life of the brick of a building to be 132 years.

Q. Yes, but I understood you to say yesterday that in the case of an existence of a hundred years you allowed \$1 on a hundred for depreciation? A. Yes, sir.

Q. Per year? A. One per cent., yes, sir.

Q. That would be \$1 on a hundred per year for depreciation? A. Yes, sir.

Q. Assuming that that allowance is made and it is invested properly from time to time, have you figured out what the life of that building would be on the strength of that allowance? A. No, sir.

Q. It would not be over 35 years, would it? A. I have not figured that.

Mr. MATTHEWS. If it was put into a sinking fund, Mr. Brooks?

Mr. BROOKS. That is, if you assume a structure is to last a hundred years, and you take out a dollar every year for a hundred years and invest it, put it into a sinking fund, for instance, what I am driving at with him would be to see whether the building, according to that theory, would be dead at the end of 35 years.

Mr. MATTHEWS. If you allow it to compound?

Mr. BROOKS. Yes.

Q. That is, Mr. Kirkpatrick, have you made any estimate at all of reserving \$1 every year for 100 years as to discover when the reserve fund will amount to enough to replace the building?

A. I have not.

Q. Now running back for a moment, how many experts have been employed by the city upon both gas and electric lighting plants from time to time?

(Objected to; withdrawn after discussion.)

Q. Mr. Kirkpatrick, how much slope did you allow for your various excavations in your two plants? A. I couldn't tell you without going into the figures, sir; I have not those figures here.

Q. Going into what figures? A. Without refiguring it.

Q. Well, can you approximate? A. No, sir.

Q. The amount of slope? A. No, sir.

Q. Can you tell me what would be a fair allowance for slope in the various excavations for the two plants? A. Well, take, for instance, the wheel pit of the tailrace, I think that is where the principal difference is.

Q. Well, the wheel pit of the— A. Wheel pit and tailrace.

Q. Wheel pit and tailrace? A. Of the electric light plant.

Q. Yes. A. I believe that I allowed a slope of 6 inches to the foot. I am not quite positive about that. That is my remembrance.

Q. Have you anything that will afford us information? A. No, I have not. When I figured those things, I figured them on a pad and threw the slips away as I got through, merely keeping the totals.

Q. What do you mean by saying you allowed 6 inches to the foot? I presume I understand you, but I am not sure. A. Well, I mean if the excavation was 20 feet deep, that I would dig the excavation 30 feet wide.

Q. Thirty? A. Yes, sir.

Q. Did you make any such allowance as that? A. I believe I did.

Q. Well, no six inches to the foot would give that, would it? A. Well, that is three inches on each side; that is six inches in the total.

Q. Oh, I see. That is, you really allow 10 feet on each side? A. If the excavation was 20 feet deep I would allow 30 feet; that would be 5 feet—

Q. Five feet on each side? A. Yes, sir.

Q. Now, tell me what the amount of excavation was that you allowed for the wheel pit and tailrace upon your theory of an allowance of 6 inches to the foot for slope? A. The total excavation I got 23,600 cubic yards.

Q. Now how much of that was for slope? A. I could not say.

Q. Any way in which you can figure it? A. I can figure it over again.

Q. How long will it take you? A. Oh, not very long.

Q. Do it, then.

Mr. MATTHEWS. Do you want him to do it on the witness stand, Mr. Brooks?

Mr. BROOKS. I would just as soon he would step off.

Mr. MATTHEWS. Come around here, Mr. Kirkpatrick; sit down here. (The witness left the stand.)

Q. Can you draw me a cross-section of the wheel pit and tailrace very readily? A. You have got one in the plan now.

Q. Very well. I mean a draft showing the slope.

Mr. MATTHEWS. You mean of his excavation?

Mr. BROOKS. Yes.

A. I think so, yes, sir.

Q. You haven't anything there, have you? (Examining plans with witness, who afterward proceeded to make a computation.)

The witness having finished his computation, the stenographer read the following:

"Q. Now tell me what the amount of excavation was that you allowed for the wheel pit and tailrace upon your theory of an allowance of 6 inches to the foot for slope. A. The total excavation I got 23,600 cubic yards.

"Q. Now, how much of that was for slope?"

A. I did not understand the question, then. I figured the total.

By the CHAIRMAN.

Q. How much did you figure the total? A. I did not get as much as I did before.

The CHAIRMAN. That is discouraging.

Mr. BROOKS. Now, what I asked you to do was to figure the slope.

(The Chairman suggested that the witness should make the computation away from the stand.)

Mr. BROOKS. You can leave that and give this to me this afternoon.

A. I think it would be practically 5 feet by 20 feet by the length of that tailrace, 320.

By Mr. BROOKS.

Q. Well, can you give that to me right off in figures—the amount of the tailrace? A. Just a minute.

Q. Of course you understand I have got a wheel pit and tailrace. A. (After figuring.) Less than 1600 yards.

Q. For the slope excavation for your wheel pit and tailrace you have allowed less than 1600 yards? A. I think so now. I would like to verify that during the lunch hour.

Q. That is all right; you can have the opportunity. What is the character of the soil where this wheel pit and tailrace are located, wet or dry? A. I don't know as I know.

Q. I didn't catch that. A. I don't know as I know from actual experiment.

Q. Right next the canal, isn't it? A. Between two canals.

Q. Your foundations are how far below the surface of the water in the canal? This is the first level canal I am talking about; 20 feet, aren't they, below the surface of the water in the canal, for your wheel pit? A. I think so.

Q. I am informed I am mistaken. Isn't it nearer 30 feet below the surface of the water in the canal? A. The tailrace ought to be level with the bottom of the other canal, the lower canal.

Q. Would your wheel pit and tailrace be something like 30 feet below the surface of the water? A. I will look that up.

Mr. MATTHEWS. The first level canal?

Mr. BROOKS. Yes, the first level.

A. Elevation of the bottom of the tailrace, 74.

Q. Give me the answer to my question if you can, without the number of feet. A. And the water in the first level canal is 100. That is 26 feet.

Q. Well, is that the bottom of the excavation or the top of the plank you are talking about? A. Well, there is only a few inches difference. The top of the plank; that is the top of the plank.

Q. It would be fair to say that the excavation would extend nearly 30 feet below the surface of the water of the canal? A. Yes, sir.

Q. The first level canal, and this is right up at the canal, isn't it, your excavation? A. It begins about 78 feet from the canal—no, 30 feet, I mean; 30 feet from the canal.

Q. What? A. 30 feet from the canal.

Q. Now what allowance have you made, in your price for

excavation for this wheelpit and tailrace, for the character of the soil, for the water and pumping the water, and for coffer dams? A. I believe my price will cover all those things.

Q. Do you mean that? A. I do.

Q. Your price is 25 cents? A. Yes, sir.

Q. And do you believe that would cover everything? A. I do.

Q. Did you ever do a job of that kind for that price? A. Not as a contractor.

Q. Did you ever estimate on a job of that kind for that price, where the job was done on your figures? A. I don't recall any such.

Q. Do you know of anybody that ever did the work as cheaply as you have estimated this, under like conditions? A. Yes, sir.

Q. Who? A. A contractor, P. J. Kennedy.

Q. For whom? A. George C. Gill Paper Company.

Q. Do you say that that is a similar location to this? A. That is about the same distance from the canal, only it is the third level canal, between the third level canal and the river.

Q. Do you know what the depth of his excavation was? A. I do.

Q. What? A. About 45 feet.

Q. Do you know the extent of it? A. You mean the quantity?

Q. Yes. A. I believe it ran up 20,000—I don't remember just what now.

Q. I want to ask you, as to that very contractor, if the pumping was not paid for and the coffer dam paid for besides the price per cubic feet that you mention? A. I don't believe it was.

Q. Do you know whether it was or not? A. I had charge of it.

Q. Do you know whether it was or not? A. I don't recall that it was.

Q. How much do you allow for the excavation for the head gate per cubic yard in your schedule? A. 50 cents a yard.

Q. That is just twice as much as you allow for the wheel pit and tailrace? A. Yes, sir.

Q. Why? A. Got some direct water to deal with in that case.

Q. How much? A. The length of the head gate.

Q. Don't you have direct water to deal with in the tailrace under consideration here? A. I don't believe you do, no, sir.

Q. Don't you have it right from the second level canal? A. At the tailrace?

Q. I am talking about the tailrace. Don't you deal with direct water in the tailrace on the second level canal? A. You do down at the tailrace, a very small portion of it, yes, sir.

Q. How much? Can you tell? A. In depth?

Q. Yes—in length. A. Practically 60 feet in length, I should say.

Q. How deep? A. I don't know the depth of that canal. I should think—

Q. 8 feet? A. About 7 1-2 or 8 feet, I was going to say.

Q. What have you allowed for that in your price of 25 cents per cubic yard? A. I allowed a price large enough to cover it.

Q. Did you give that any particular consideration? A. Yes, sir.

Q. Did you make an allowance—specific allowance—for it? A. No, sir.

Q. In any of your figuring? A. In forming my opinion of values.

Q. Can you tell me the allowance that you made for that? A. No, sir.

Q. What was your value of the excavation under the chimney per cubic yard? A. 25 cents.

Q. No danger of water there, under the chimney? A. I think not. It is a small quantity, though.

Q. But a man is taking this whole job, you told us yesterday. A. Yes, sir.

Q. And on that basis you are formulating your estimates? A. Yes, sir.

Q. What difference does a small job make if a man is taking the whole excavation and one piece of it happens to be less than some other piece? A. A man can certainly excavate a large quantity cheaper than he can a smaller one; and particularly where that chimney is only, as I remember it, 19 or 20 feet square, or such a matter.

Q. How deep is your excavation for your chimney? A. As I remember it, 8 feet. I am not positive about it.

Q. Do you know how deeply they excavated for that chimney? A. I do not.

Q. Did you know whether there was any piling put in under the chimney? A. The plan called for piling and I figured it in.

Q. You say the plan calls for piling? A. Yes, sir.

Q. What plan? A. The plan submitted by the Water Power Company.

Q. Now don't you think, honestly, that you have got your excavation for your tailrace and wheel pit a little low? A. I do not.

Q. Do you allow in your excavation 25 cents per foot for piling at the wheel pit and tailrace? A. I have the sheet piling figured in extra, I think.

Q. How much? A. \$141.10.

Q. Now in this excavation of almost 30 feet, about 30 feet—
A. The tailrace?

Q. Yes. A. I don't think it is 30 feet.

Q. Well, your wheel pit. A. The wheel pit is, but not the tailrace; I don't think the tailrace.

Q. In this excavation for substantially 30 feet how many times is your dirt handled? A. That is a question entirely of management.

Q. In your management what did you allow? A. I think it would be handled but once.

Q. Where would you take it to? A. It would be hauled off in carts. We have got a trench—

Q. Hauled off in carts and then returned? A. You wouldn't have to return all of it.

Q. Do you know how much? A. Would be returned?

Q. Yes. A. The amount of excavation less the amount occupied by the tailrace.

Q. Do you figure in your price per cubic yard for the carting of this dirt off and back? A. I believe I did, yes, sir.

Q. You believe you did. Don't you know? A. I believe it covers all of those items, certainly.

Q. Where did you cart it to, in your calculations? A. That could be carted and filled around the other buildings as required.

Q. What other buildings? A. The dynamo, electric light station, steam engine building, boiler room, all those.

Q. I see. But now what are you doing? Where do you cart the excavation for those buildings? This job is all going on. A. The excavation of those other buildings?

Q. Yes. You are going to take the dirt and put it around the excavations, as I understand, for these other buildings. Where are you going to take the dirt that you excavate for these other buildings? A. Some of it would be hauled off and dumped and other be left round, piled up in heaps to be distributed later.

Q. If you are going to build this new you have got to take and carry the dirt off the premises, haven't you? A. No, sir, not necessarily.

Q. Did you figure on this carting at all? A. All those things are considered, certainly, in making the estimate.

Q. Do you know what the character of that ground was at the time these electric light buildings were constructed? Do you know what its grade was? A. I do not. I took the grade as indicated on the plans.

Q. Then when you estimate for your excavation you take the land as it is? A. Certainly, yes, sir.

Q. How much excavation was required there by the formation of the land and by the grade you cannot tell? A. No, sir.

Q. Now, as I understand you, you allowed for 5 feet slope on each side of your wheel pit, for a depth of 20 feet? A. In the allowance my quantities fall short of those submitted in my estimate, so it is evident that I have allowed a greater slope. That was in my mind, however.

Q. You have allowed what? A. A greater slope.

Q. A greater slope in your estimate? A. I should judge so.

Q. How much slope do you allow for in your estimate? A. I couldn't tell you. As I have calculated this here, with a slope of 5 feet on each side, the quantity comes something like 17,000 yards. Now whatever extra there is between that 17,000 and the amount that I estimated comes in the extra slope.

Q. What is the usual rule for allowance for slope in excavations of this character, for wheel pit and tailrace, with conditions existing as they exist at this particular point? A. That is a question that depends entirely upon the management.

Q. Is it usually one for one? A. That is a very excessive slope.

Q. I asked you if it was usually one for one under these circumstances? A. I think not.

Q. What have you allowed for shoring, if anything? A. I have allowed that in some timber farther down in my schedule, I think.

Q. Does it appear in your schedule? A. Not under the head of shoring.

Q. Where? You have not allowed for it anywhere in your schedule, have you? A. I don't see the item "Shoring" mentioned.

Q. You don't allow for it anywhere in your schedule, do you? A. No, sir.

Q. Do you think, when you have allowed 5 feet slope, that that is enough? Is it in your judgment enough for excavations of the character of the one about which I have been making inquiry? A. It is evident by my figures that I have allowed more than that.

Q. Well, supposing you have allowed 6 feet? A. I think I have allowed more than 10.

Q. Well, you are going to tell me after dinner? A. Yes, sir.

Q. You don't think 5 feet is enough, do you? A. I should judge not, no.

Q. Do you think 10 feet is enough? A. 10 feet on a side I think would be ample; yes, sir; that, is, 10 feet in a depth of 20.

Q. No; this has a depth of 30. A. Not all of it.

Q. The wheel pit has a depth of 30? A. The wheel pit has, the tailrace has not.

Q. Would you say 10 feet was enough for a depth of 30 feet? A. No, sir.

Q. What would you say would be sufficient? A. 15.

By the CHAIRMAN.

Q. 15 on each side? A. Yes, sir.

By Mr. BROOKS.

Q. That is, then, your slope would come within 15 feet of the water of the canal? A. My slope wouldn't be in that direction at all. My slope would be northerly and southerly.

Q. You have got to have it toward the canal, haven't you? A. No, the canal wall runs down plumb—practically plumb.

Q. When are the excavations in the neighborhood of the canals made in the city of Holyoke? A. The season of the year, do you mean?

Q. No, what days, for wheel pits and tailraces? A. Days when the water is out of the canal, usually.

Q. That is, it must be either Sunday or some other day when the water is out of the canal? A. Yes, sir.

Q. At odd times? A. Yes, sir.

Q. Is there any extra expenditure for that—any extra cost? A. Sometimes there is considerable expense.

Q. Have you ever known of an instance where there was not, for any such job as this? A. There have been times when the head gates have been put in with the water in the canals.

Q. Do you know of any such job as this being performed without extra expenditure because of the odd times that it was necessary to perform it in, when the water was out of the canal? A. No, sir.

Q. What have you allowed for that expense? A. I think my quantities, my prices, on the whole—

Q. Your 25 cents per cubic yard? A. 50 cents per cubic yard for the head gates.

Q. I am talking now about the wheel pit and tailraces. You think that 25 cents per cubic yard would be sufficient? A. To do that work? Yes, sir.

Q. Do you think your present prices for tailrace excavation would be sufficient? A. There is a very small amount of that in connection with the—

Q. Answer my question, please. A. I do.

Q. It would cost you 15 cents to cart your dirt off, wouldn't it, on a short haul, per cubic yard? A. I will tell you that if you will tell me the number of loads that a team hauls in a day. It depends on the length of the haul.

Q. You ought to know that. A. I have seen times it didn't cost 5 cents.

Q. Am I correct in my assumption? A. That is merely an assumption.

Q. That it would cost substantially 15 cents per cubic yard? A. I don't think so.

Q. To haul this dirt a short haul? A. I don't think so.

Q. You don't think it would? A. No, sir.

Q. What have you allowed for your labor a day in your excavations? A. The usual price of labor in Holyoke is \$1.50 a day.

Q. You have allowed \$1.50 a day for labor per man? A. Yes, sir.

Q. How much, in an excavation of the nature that I am inquiring about, would a man do in a day? A. One man, at such a thing, wouldn't make a very big hole.

Q. How many men have you calculated on to do it? A. I couldn't say.

Q. What would be the ordinary result of one man's labor in an excavation of this nature? A. A man, to do a fair day's work, all he would have to do is 6 yards.

Q. What? A. If a man did a day's work he would have to do 6 yards, and whatever he could for the contractor to get his profit on top of it.

Q. I don't know how much of this is responsive. Do you mean that the ordinary man at \$1.50 a day, the ordinary workman, would excavate 6 cubic yards a day? A. I think so.

Q. That would be just 25 cents a yard, wouldn't it? A. Yes, sir.

Q. For the man's labor alone? A. And then there is a profit.

Q. For the man's labor alone it would be 25 cents a yard? A. That is merely an opinion; I couldn't tell you.

Q. Well, that is your opinion? I understand that. A. Yes, sir.

Q. Then how much would you allow for carting the dirt away and bringing it back, on top of that? A. I mean all this is included in that. I do not mean that the man alone would be expected—

Q. Oh, no. You say now, don't you, that the ordinary laborer at \$1.50 a day would excavate 6 cubic yards, and I agree you are correct. A. I am correct that 6 times 25 is \$1.50.

Q. With this kind of material that they have to deal with there? A. He would have to excavate a little more than that in order to get the contractor's profit of it.

Q. Are you going back on the opinion you expressed a few minutes ago, that one laborer, in your opinion, at \$1.50 a day, would excavate 6 cubic yards? A. That one man alone?

Q. Yes. You are going to stick to that, aren't you? A. I think that would be a fair day's work.

Q. Now that is 25 cents per cubic yard. How much would it cost to cart that per cubic yard, back and forth, in your judgment? A. Carting it back is included in the filling price.

Q. How much would it cost to cart that back and forth per cubic yard, 10 cents or 15 cents? A. I think 10 cents a load would be excessive.

By Mr. COTTER.

Q. What do you say, Mr. Kirkpatrick? A. I say 10 cents a load would be excessive.

Q. Yes. Now we want to know what the fair price is. A. I think 10 cents would be a fair allowance.

By Mr. BROOKS.

Q. That is, you have to have one man to drive the cart, and the man that is doing the excavating doesn't load the cart, but there is another man for that purpose? A. The man that loads.

Q. You say 10 cents, in your opinion, is too large? A. I think so.

Q. For this character of soil, where you have to consider the water in connection with it? A. I think that is a fair allowance.

Q. 10 cents? A. Yes, sir.

Q. Very well. That is 35 cents per cubic yard. Now when you were calculating upon moving your dirt from your 30 feet pit do you calculate that the one man throws that dirt up 30 feet? A. No, sir.

Q. What do you do to get it up? A. Men throw it into the team and the team pulls it up.

Q. What does that cost per cubic yard, in your opinion? A. I presume I told—I believe I told you that the teaming was fair.

Q. I am not talking with you about that. A. 10 cents a yard.

Q. You talked with me about the removal, after you got the dirt up to the mouth of the pit. I am asking you now how much it would cost to get the dirt up to the surface of the earth from the bottom, per cubic yard? A. I understand that to be included in the amount that the team would cost to bring it up.

By the CHAIRMAN.

Q. You run your team down to the bottom of the pit? A. Yes, sir.

By Mr. BROOKS.

Q. How does your team get there? A. Oh, a pit 320 feet long—

Q. How does your team get there? A. Drives down on a slope.

Q. You have to excavate for it to get there, don't you? A. Yes, sir.

Q. What have you allowed for that? A. That is a very small allowance, a driveway down there.

Q. What have you allowed for that? A. I haven't allowed anything.

Q. Tell me how much it would cost per cubic yard to remove the dirt away from the bottom of the pit as it is being done. A. Away from the bottom of the pit? I believe that the whole of that is included in my estimate.

Q. Do you swear it is? A. I believe it is. I believe it can be done today for that price.

Q. How much have you allowed per cubic yard for it? A. I have told you 10 cents a yard was a fair allowance for a team carting that off. I don't expect to put a team on the top of the bank and have somebody throw dirt up to it. I expect the team to go down into the trench.

Q. Would it make any difference in your calculations as to the character of the soil, when you come to estimate what it would cost to remove that dirt? A. Yes, sir.

Q. Do you say you take that into consideration when you estimate 10 cents per load? A. Yes, sir.

Q. 10 cents per cubic yard, I mean. When you speak of the cost of 10 cents per cubic yard for the removal of the dirt by teams, did you include in that price the character of the soil? A. Included everything, as the soil is.

Q. How much would be a load of this kind of soil? A. About a yard and a third.

Q. When you are calculating upon the value of this electric plant do you build your buildings first, or your wheel pit and tailrace first? A. It is usual to build the wheel pit and tailrace first.

Q. Did you so calculate in this case? A. I don't know that I did.

Q. Can't you tell this Court? A. No, I could not.

Q. Wouldn't that make a difference in cost? A. It would make a difference merely in the distribution of the dirt.

Q. Well, I know it; and which have you done in your calculation? If you say you don't know I will pass over it. A. I don't believe I know.

Q. Mr. Kirkpatrick, have you had any assistance in these estimates that you have made here of the valuation of the electric light and gas construction? A. Yes, sir.

Q. Who? A. Three men employed by me, partly.

Q. Who made the estimates? A. I did.

Q. Upon quantities furnished by these men? A. No, sir, upon quantities determined by myself.

Q. By them and yourself? A. By them and myself, yes.

Q. That is, they figured the quantities from the maps, did they? A. No, they didn't. I took the quantities from the maps, made the calculations and they checked them up—checked the calculations.

Q. That is, you had them verify your work? A. Had them verify my figures.

Q. Well, your estimates of material? A. Quantities of material.

Q. And of excavation? A. All of them, except the iron work.

Q. Where are those figures, made by you or them? A. I haven't them now.

Q. They are not in existence? A. I don't believe they are.

(Noon recess.)

AFTERNOON SESSION.

JOHN J. KIRKPATRICK, *resumed.*

Cross-examination by Mr. BROOKS, continued.

Q. Did Mr. Davis, the witness who last preceded you, and you both consult together with reference to estimates? A. I think we did.

Q. And that consultation was extensive, wasn't it? A. About an hour or two, probably.

Q. Well, on how many different occasions? A. Only one that I can now recall.

Q. What? A. Only one that I now recall.

Q. Your figures, your totals, vary how much from his? A. I do not know.

Q. Haven't you an idea? A. None in the least.

Q. On the buildings of the gas plant you come very near each other, don't you? A. I could not say, sir; I positively do not know.

Q. Didn't you see his figures? A. Not till they were introduced in court here the other day from the time—

Q. Didn't you consult with him before he made his figures? A. From the time that we had our consultation until they were introduced in court, I had not seen him. That was some over a year.

By Mr. MATTHEWS.

Q. Over a year ago, you mean? A. Yes, sir.

(Question read.)

A. I saw him before he made his figures, yes, sir.

By Mr. BROOKS.

Q. Well, you talked it over, didn't you? A. No, sir.

Q. You and he? A. No, sir. He made figures up before I ever talked with him.

Q. Before these figures, these final figures of his, if we can call them final, were made, you and he consulted together, didn't you? A. We did, about a year ago I think.

Q. Did he consult with you before he made his changes in his figures? A. No, sir.

Q. Since last Thursday? A. We had been together several times, been to the theatre; we might have talked it over casually.

Q. Yes, talked it over casually; I see. Did he consult with you about changing the price on the land from 40 to 15 cents?

A. No, sir.

Q. What? A. No, sir.

Q. Who gave him the figures of 15 cents for the land? A. I couldn't say.

Q. Did you? A. No, sir.

Q. Have you changed your figures since Mr. Davis testified, any of them? A. No, sir.

Q. You have some, haven't you? A. In reading the proofs the other day I found an error that I corrected.

Q. Well, haven't you made some pencil changes in your prices since Davis testified here? A. That is the one I speak of, I made three or four days ago.

Q. One you speak of? A. Yes, sir.

Q. You don't want to confine yourself to one, do you? A. It certainly is one; it is one with reference to brickwork. It leads up to others on account of depreciation on that particular item.

Q. How high was the chimney that you figured the brick in of the electric plant? A. Of the what?

Q. Of the electric plant? A. The height shown on the plans, sir.

Q. How high is that? A. I think it is 153 feet; I am not sure.

Q. Well, 155, to be more accurate, isn't it? Call it 153 if you choose to. A. I am not sure of the height.

Q. You allowed for the brick laid in that chimney 153 or 155 feet high, \$10 per thousand? A. Yes, sir.

Q. You think that is a fair allowance, do you? A. I do.

Q. For such a job as that? A. I do.

Q. Did you ever estimate on a chimney of that height at prices as cheap as that— A. I did.

Q. Excuse me—which chimney was built upon your estimates? A. Whether it was built upon my estimates or not I cannot say. I estimated the chimney that was built.

Q. Yes; where? A. At D. Mackintosh & Sons Company, in Holyoke.

Q. How high? A. I cannot recall.

Q. Well, you see my question was, chimney as high as this.

A. I don't know whether this is the same height or not.

Q. So then you cannot mention another instance where you have estimated on a chimney of this height, built as this is, for this price that you have named? A. I think not.

Q. I see you put in your wheel house as 8 years old. A. I think so, yes, sir.

Q. Where did you get that information, that it was 8 years old? A. I think I got it from the testimony that it was built in 1890, or something like that; 1890 or 1891.

Q. Well, it was only 7 years old. A. I understand the testimony to read that the wheel house was built before the rest of them.

Q. Then you assumed the age as eight years? A. Yes, sir.

Q. Did you estimate the water power machinery at all? A. No, sir.

Q. What is the grade of the selected gas lot? A. Elevation, do you mean?

Q. Well, I mean grade. A. I don't know the grade.

Q. What? A. I don't know the grade.

Q. Well, I presume the elevation will cover it, but I mean with reference to the grade of the streets—grade of Race street. A. With reference to the grade of Race street, I should say it was considerably lower. I do not recall just how much at this time.

Q. The lot is considerably lower than Race street? A. Than Race street, yes, sir.

Q. Would you think it would be proper engineering to bring that lot up to the grade of Race street? A. Why, no.

Q. What? A. No, sir.

Q. You would not change the grade from what it is at the present time if you were going to erect a gas plant there? A. There is no established grade of Race street at the present time at that point.

Mr. BROOKS. Well, that was hardly an answer to my question. Just read the question.

(Question read.)

A. I suppose I am not competent to testify about a gas plant.

Q. No, but you are valuing, aren't you, the structure of a gas plant? A. Existing structure, yes, sir.

Q. Couldn't you tell me as an engineer whether or not you would make any change in the grade of the lot that you have selected for a gas plant if you were going to erect a gas plant there? A. I thought yesterday I was ruled out from giving an opinion for that same reason.

The CHAIRMAN. That is the way it struck me. You may qualify him if you keep on.

Mr. MATTHEWS. I think he is doing it very rapidly.

Mr. BROOKS. I am very glad to take my chances. He is an engineer; I suppose he can answer the question, can he not, as to whether or not if he was going to make any extensive structures upon this lot he would change the grade of that lot or leave it the same?

The CHAIRMAN. All right—

Mr. BROOKS. I will take—

The CHAIRMAN. You will take the chances?

Mr. BROOKS. I take every chance, yes, sir. That is the life, I suppose, of a lawyer, a life of chance.

The CHAIRMAN. Go ahead.

Q. You do not care to express an opinion? A. I understand there was an objection to the question. I will express the opinion if the question is put to me, yes, sir.

Q. Leave out the gas plant. If you were going to erect a series of substantial buildings upon this lot for manufacturing or other purposes, wouldn't you consider it would be good engineering to change the present grade of that lot?

Mr. MATTHEWS. I object to that question, your Honors. There is no controversy in this case as to the suitability of this land for other manufacturing purposes. The only question is whether it is suitable for gas works. I understood this witness was not to testify to the suitability of this lot for gas works.

Mr. COTTER. After all, Mr. Matthews, the question is whether it is suitable for building purposes. Of course we would draw some inference as to the kind of building that they would need for gas purposes. We think in cross-examination that question may be put. It is a matter within our discretion. We

think the question ought to be answered. (To witness.) You may answer the question.

A. Under some conditions the grade of that lot might be changed, under other conditions it might be left as it is. For instance, for the—

Mr. BROOKS. (To the stenographer.) Will you just repeat my question?

Mr. MATTHEWS. I submit, your Honor, that that is a perfect answer.

(Question and answer read.)

Mr. BROOKS. I think that is not responsive.

Mr. MATTHEWS. The question is not capable of a categorical answer.

Mr. BROOKS. How do you know?

Mr. MATTHEWS. Because I heard it.

Mr. BROOKS. Are you an expert on these things?

Mr. MATTHEWS. I think I am capable of knowing whether a question can be answered yes or no.

Mr. COTTER. While the question might be answered more specifically, I think we ought to let the answer stand.

Q. Well, supposing that you were erecting a series of expensive brick buildings upon this lot, wouldn't you think it would be good practice to change the present grade of that lot?

A. Yes and no.

The CHAIRMAN. That is a fair answer.

Mr. BROOKS. I will take it one way, my friend can have it the other.

Mr. MATTHEWS. We are both satisfied.

Q. What is the grade of the present gas lot? Did I ask you that? I think I have. A. I told you I did not know what the grade of the lot was; I know about what the elevation is.

Mr. MATTHEWS. Mr. Brooks, will you ask him what the difference is? I do not understand; perhaps you do.

Mr. BROOKS. What was that, Mr. Matthews?

Mr. MATTHEWS. You ask him about grade and he says something about elevation.

Mr. BROOKS. Do you want me to ask him what the difference is?

Mr. MATTHEWS. What he understands to be the difference.

Q. What is the difference between grade and elevation that you speak of? A. The elevation of the lot is the height above mean sea level; the grade of the lot is the slope. I know nothing about the slope of it just now.

Q. You do not know anything—what? A. Of the slope of it,—grade.

Q. Well, you told us that it was substantially level, didn't you, this morning? A. Yes, sir, but when you talk about grade you are going down to accurate figures that I cannot give you.

Q. Very well, you cannot tell anything about grade. Now did you make those figures that I asked for this morning? A. I think I did, yes, sir.

Q. Well, what is the amount of excavation that you allowed for the slope in the tailrace and wheel-pit of the present electric plant? A. 4634 yards.

Q. 4634 yards? A. Yes, sir.

Q. Cubic yards. Now, does that tell you what slope you allowed for? A. I allowed in that—you wish to have me give you the exact figures?

Q. If you please, sir, the slope, whether 5, 10 or 7? A. The slope was 1 to 1, or 6 inches on each side to each foot.

Q. That is the slope that you allowed for? A. Six inches on each side.

Q. That is not 1 to 1; it is 1-2 to 1, is it not? A. It is 1 to 1 on the total, and 6 to 1 on each side.

Q. Then it is what would be known in your engineering profession as an allowance of 1-2 to 1? A. Yes, sir.

Q. And are those figures included in your total amount of excavation? A. Yes, sir.

Q. So, of course, the difference between your total amount and this computation that you have given me gives you the amount of wheel pit and raceway excavation? A. Yes, sir.

Q. Who took the levels for your profile? A. You mean of the plan I submitted, I presume?

Q. Certainly, I mean of that plan. I don't recall the exhibit. A. I could not say; I think it was the assistant city engineer.

Q. Well, who is he? A. Mr. McCarthy.

Q. You didn't take them yourself anyway? A. Not for the profile, no, sir.

Q. Well, did anybody take them under your directions? A. He did.

Q. Under your direction? And can you tell me about when that was done? A. I should say it was done in '98; I could not say when.

Q. About their accuracy you don't personally know? A. No, sir.

Q. I see on the first page of your estimate, schedule and estimate of the value of buildings at the electric light station, you have the tunnels \$809.93, being the fourth item in your summary?

The CHAIRMAN. The first page?

Mr. BROOKS. The first page.

A. Yes, sir.

Q. And your totals, I notice, foot correctly; that total of summary foots correctly for that \$809.93, doesn't it? A. I don't know, since this come from the—

Q. Well, "tot" it up and see. A. Yes, sir.

Q. Will you turn over to page 5 of your schedule. I see you have the total value of the tunnels there \$909.93. Which is correct? A. They cannot both be correct.

Q. I didn't know but they might be. You cannot tell? A. I can refer to the original, and then tell you perhaps which is.

Q. That is all right. I asked you which was correct. A. In the manuscript copy that I have, the amount on page 5 and in the summary is \$809.93.

Q. Well, \$809.93, yes, but I see in your summary—I see that is the same in your summary on the first page, but I notice that you have the total on page 5 of your estimate of the value of the electric plant \$909.93, and I am informed that that total is a correct footing. You might determine that. A. I can see where I made my mistake in the original. That amount should be \$909.93.

Q. So that your summary of valuation should be increased that amount—that difference? A. \$100.

Q. Yes. Your excavation for the headgates on page 2 amounts to a total of 17,900 cubic yards, does it not? A. The headgate?

Q. Yes. A. I guess I must have misunderstood you—

- Q. I will change that: 1,000 cubic yards? A. Yes, sir.
- Q. What is the total amount of your lumber for your head-gate? A. 17,900 feet.
- Q. And for that you allow \$350? A. How much did you say?
- Q. Nineteen fifty. A. No.
- Q. \$350 is the total; \$350 is the total. A. I make it \$337.50.
- Q. What is that? A. I make it \$337.50.
- Q. For your 17,900 feet? A. There are four items, aren't there?
- Q. You make that how much for your total amount of lumber? A. \$337.50.
- Q. You allow for the labor and the spikes \$350? A. Yes, sir.
- Q. Or \$19.50 per thousand feet? A. I have not computed it.
- Q. For labor. Let us see if I am right about it. A. About that.
- Q. And that is substantially all labor, isn't it? A. The labor?
- Q. That your labor is allowed for? A. Yes, sir.
- Q. Now, go with me to page 3. The feet of lumber that you allow for the wheel-pit and tail race, or that you value, for the wheel-pit and tailrace of the electric plant, is 219,799 feet? A. How much?
- Q. 219,799. A. I don't get it that. I get about 234,000 feet.
- Q. 234,000? A. Yes, sir.
- Q. Very well; we may be mistaken about it. A. There is 61,000 feet of hemlock timber, and 87,000 feet of hemlock plank, 30,000 feet of sheet piling—of plank, rather, and sheet piling—hold on, 5 6-10, I guess that is where the mistake is; I have been figuring that in as 56,000. 183 6-10.
- Q. What? A. 183 6-10.
- Q. What I am after is, how many feet of lumber you allow for the wheel-pit and tailrace of the electric plant? A. 183,600.
- Q. 183,600? A. 183,600.
- Q. You think that is correct? A. Well, I am taking it from the typewritten copy. Let me get the—

Q. That is 56,000? A. 5600.

Q. 56,000 in my schedule that you have there for the value.

A. Well, 5 times \$16 is only \$80.

Q. It should be 56,000, then, should it? A. 5600.

Q. It is so in the schedule, isn't it? A. It is an error of type-writing. On the original I have got it is 5 6-10.

Q. That should be 5 6-10 thousand feet? A. Yes.

Q. Then you had a total for lumber of 183,600 feet? A. Yes, sir.

Q. And you have an allowance for labor and spikes of a thousand dollars? A. Yes, sir.

Q. How much would that be for labor per thousand feet?

A. It is a mere matter of division.

Q. Well, let us have it for the record. A. 183 6-10?

Q. Yes, whatever you had the total. A. Well, I had it, but—

Q. Well, would it be substantially \$5 per thousand feet for labor? A. Yes, sir.

Q. Now, turning to page 4 of your schedule, I will ask you this question: What do you figure the labor per thousand feet there is for your lumber for the wheel-house of the electric plant? A. A little over \$9.

Q. Well, substantially \$9, can we say? A. Yes, sir.

Q. Now, for the lumber of the dynamo building, how much per thousand feet do you figure the labor? A. Over \$7.

Q. A little over \$7? A. Yes, sir.

Q. Now, for the steam engine building, what did you figure your labor per thousand feet, or what does it figure per thousand feet, according to your schedule? A. Nearly \$9.

Q. Just look and see if that is not nearly \$8 instead of nearly \$9, \$7.80 to be accurate. A. About \$8, yes, sir.

Q. And the labor for the lumber in your boiler house is, according to your schedule, \$13.70 per thousand feet? A. I will take your figures for it.

Q. I don't want you to unless you think I am right. Now, for the spruce plank for your dynamo building you figure a valuation of \$15.50, do you not? A. Yes, sir.

Q. For the same kind of plank for the steam engine building you figure \$16, do you not? A. I am not sure that it is the same kind of plank.

Q. Is it not the same? A. I don't know now.

Q. Cannot tell,—3-inch plank in each case, 3-inch spruce plank? A. One might have been rough and the other might have been planed, I don't know.

Q. Which is which? A. I don't know. I don't remember.

Q. For your windows and frames for the dynamo building you allow \$4; do you figure \$4? A. No, sir, the windows and frames are all lumped in together.

Q. Well,— A. Windows and frames were figured separately, and the total number given and the total value given.

Q. I see you have 102 windows and frames, \$408. A. That does not necessarily follow that they were \$4 apiece.

Q. They average \$4, don't they? A. Yes, sir.

Q. Did you make any separate valuation of those windows and frames? A. Yes, sir.

Q. Where is that? A. I have not those details.

Q. Well, your average for the windows and frames for the steam engine building is \$5.75, is it not? A. I don't know.

Q. Look and see. A. Yes, sir, \$5.75.

Q. What? A. \$5.75.

Q. \$5.75. And for the windows and frames of your boiler house you make an average of \$3.35, do you not? A. Correct; correct.

Q. Why is there that variance? A. I cannot say now.

Q. Very well. Can you tell why there are any of the variances to which I have called your attention? A. Not at this moment I cannot, no, sir.

Q. For the gravel puddling of the steam engine building you figure 50 cents, do you, per cubic yard? A. Yes, sir.

Q. And for the gravel puddling of the chimney and boiler house you figure 60 cents per cubic yard? A. Yes, sir.

Q. Why that difference, can you state now? A. Not at present I cannot.

Q. No. You figure the flaggers, which are of the same size in both the steam engine building and the boiler house, at different prices, do you not? A. 2 cents a square foot difference.

Q. Can you tell me in what that difference consists? A. Not now, no, sir.

Q. For the back-filling of your headgate you figure, do you not, 15 cents per cubic yard in your schedule? A. Yes, sir.

Q. You figure 10 cents per cubic yard for back-filling in the other instances, do you not? A. I believe I do.

Q. In your schedule? A. Yes, sir.

Q. What? A. I believe I do, yes, sir.

Q. What is the difference; of what does it consist? A. I am unable to give that difference just now.

Q. For your Southern pine timber of your headgates and the Southern pine timber for your wheel-house there is a difference of \$2 per thousand, is there not, in your schedule? A. Between the wheel-house and the headgate, yes, sir.

Q. Why that difference? A. There are many things that might lead up to that. I don't know just what it is now.

Q. Well, I am asking you why that difference, what is the reason for that difference? A. I cannot give it just now. I say there are many things that might lead up to it.

Q. Is there anything that will aid you to give me the reason for these differences? A. Not that I have with me, no, sir.

Q. Have you anything in your possession here or elsewhere, so far as you know, that would explain the reason for these differences? A. I believe I have lost all that data that I had.

Q. Did you ever have it? A. Certainly, I had it.

Q. Showing the differences? A. Showing all the details, everything I went into.

Q. Do you say that you ever had any data showing the differences? A. Showing all the things, yes, sir, and reasons for all of it, why I did it. That is some two years ago.

Q. Now, for instance, you have got flaggers in two different buildings of the same size. Did you have a reason for your difference on any paper that you ever had in your possession? A. I think I had.

Q. You think you had? A. Yes, sir.

Q. When were these reasons destroyed?

Mr. MATTHEWS. He has not said they were destroyed, Mr. Brooks.

The WITNESS. They simply disappeared, were lost.

Q. Destroyed or lost? A. I commenced this figuring—

Q. Excuse me, when were they destroyed or lost? A. I don't know. If you will allow me to explain how they might have been—

Q. When did you look for them last? A. All last week; several times week before last.

Q. Now run along to page 4 of your schedule, the wheel house. You have the pine roof plant at \$22, and the pine roof plant of the dynamo building on page 6, \$21. Do you know any reason for these differences? A. No, sir, not now.

Q. Have you included in your figures in the schedule presented by you to the Commission here any foundation for machinery? A. No, sir.

Q. Did you make any estimate of it? A. Except I believe I have the foundation for the engine bed in the engine room.

Q. The what? A. The engine bed in the steam engine room.

Q. Where does that show on your schedule? A. I believe it is included in the total amount of brick together as 354,500.

Q. Now do you say that in that amount of brick you include the foundation? A. For the steam engine?

Q. Yes, sir. A. Yes, sir.

Q. How much did you allow for the foundation of the engine? A. I think there was not very much difference between mine and Mr. Sawin's amount on that.

Q. I asked you how much you allowed? A. I couldn't tell now.

Q. You are not certain as to that? A. Oh, I am positive about that.

Q. Is there any data that you have, that would afford information as to the amount of foundation for the engine? A. No, sir. In answer to your question let me say that I believe I included the shafting piers in the dynamo room.

Q. You say you believe you did? A. Yes, sir.

Q. How much do you believe you allowed for the shafting piers in the dynamo room? A. All there was in them.

Q. How much was that? A. I do not recall.

Q. Can you approximate it? A. No, sir. I can figure it very soon.

Q. (After a pause.) Did you figure it? A. No, sir, I said I could figure it.

Q. In your estimate for the brick for the dynamo room and Mr. Sawin's estimate of the brick for the dynamo room, the building itself, there is how much of a difference? A. I could not say, sir.

Q. Well, couldn't you by comparison? A. Well, the building itself I have not separated.

Q. You say you have looked at his estimate? A. I have compared them, yes, sir.

Q. Compared them. Assuming that your estimate of brick is for the building and not for any foundation of machinery in the dynamo room or for the piers in the dynamo room, there is just a difference of 13 brick, isn't there, between your estimate and Mr. Sawin's? A. I do not know.

Q. You said yesterday, according to the stenographic report, that "the foundations for all machinery I have left to the experts on machinery to estimate with their values, because it is a part of the machinery and not a part of the building." A. I think I said that, yes, sir.

Q. Well, is that true? A. I have since recalled that I am positive that I figured the steam engine foundation.

Q. You think now you figured the steam engine foundations. Did you figure the foundations for any other machinery, and if so, where does it appear? A. I believe I included the piers in the dynamo room. I did not include what was under the boilers.

Q. Did you include the capstones and the foot stones as well as the brick in the piers in the dynamo room? A. In the dynamo room? No, sir.

Q. In the engine room? A. In the engine room, yes, sir. I got \$1194 for it.

Q. I failed to get that. A. \$1194 I allowed for it.

Q. What page is that, will you tell me? A. Page 7 of my schedule.

Q. That is an item of cut stone that you refer to, amounting to \$1194? A. Yes, sir; and a number of cut stone in connection with the engine bed.

Q. Is not that the sills of the windows and doors? A. That is also cut stone.

Q. Can you tell me anything about the amount of capstones and foot stones in the piers of that room—steam engine building? A. From the data that I have? No, sir.

Q. How much did you allow per cubic yard for the cut stone in the steam engine building? A. There is nothing on there that would show it.

Q. I know that, but I am asking you how much you allowed.
A. It is just passing through my mind that the allowance per cubic yard is given somewhere else in this schedule.

Q. Whereabouts in this schedule does it show what you allowed for cut stone in the steam engine building? A. Nowhere.

Q. Per cubic yard? A. Nowhere.

Q. And you cannot tell me what you allowed per cubic yard?
A. I cannot now.

Q. For that cut stone? A. No, sir.

Q. Nor how much there was? A. No, sir.

Q. How many brick did you figure per cubic foot in your estimates? A. 24.

Q. What did you allow for the openings—doors and windows in the various buildings? A. The full amount.

Q. Well, what do you mean by that? You figured them solid? A. Why, certainly. I figure them, suppose the door was eight feet high, three feet long, and the wall was a foot thick, that would be $3 \times 8 \times 1 = 24$.

Q. Did you take it out? A. Certainly, I took it out of the total quantity.

Q. Have you any data that will tell me what that amounted to? A. No, sir.

Q. Is there any 3-inch hemlock plank in the headgate? You can look at the plan. A. (After examining plans.) 3-inch hemlock sheet piling.

Q. It is 3-inch hemlock plank, isn't it? A. Certainly, yes, sir.

Q. And isn't that there a 3-inch hemlock plank besides the sheet piling? A. On the grillage floor.

Q. How much of that is there? A. Do you want to have me figure it?

Q. Will it take long? A. No. (Figuring.) 24 feet x 3 ft. x 3 in. x 2.

Q. It is something like 3300 feet? A. I do not make it so. (Examining plan.) Instead of 3 there should be 13.

Q. That makes about 3300 feet of hemlock plank, grillage floor? A. About that, yes, sir.

Q. Where does that show up in your schedule of valuation?
A. I have got "hemlock timber, 3.9 thousand feet at \$15."

Q. Well, do you say that you have allowed for this 3-inch hemlock timber, grillage timber, in your headgate valuation?

A. No, I say I have got 3900 feet.

Q. Well, that is beside, isn't it? This is plank that I am asking about. What you are speaking of is timber, isn't it? A. Well, plank and timber is the same price.

Q. Have you allowed for the 3-inch hemlock plank for your grillage floor in your headgate? A. My opinion is that that is the allowance for it.

Q. Are you so certain about it you would be willing to swear to it? A. I will swear that I think that is true.

Q. What other hemlock timber is there, looking at your plan, in this headgate? A. I have got "sheet piling, 8300 feet." That may be the other. (Examining plan.) There is some that is marked "3-inch hemlock sheet piling."

Q. I will ask whether or not there is other hemlock timber besides the 3-inch hemlock plank I asked about? A. 10 x 10 hemlock timber; yes, sir, on the plan.

Q. How much of that? About 4,000 feet? I am trying to have you figure this from the plan if you will. A. That is what I am trying to do.

Q. Yes, that is all right. A. (After figuring.) I should say a little less than 3,000 feet. The section and the plan do not agree, so I cannot tell exactly.

Q. You think the hemlock timber other than the planking comes to something like 3,000 feet? A. I think so, yes.

Q. The sheet piling amounts to how much? A. That is an unknown quantity.

Q. Doesn't it amount to about 9,000 feet? You allow for the sheet piling in your schedule 8.3 thousand feet, don't you? A. Yes, sir.

Q. Then you have not allowed for the 3-inch hemlock grillage plank, have you? A. What is the white pine plank I have allowed for?

Q. Oh, that is a different thing; I am talking about the hemlock grillage plank. We have got white pine outside. A. There isn't anything on there marked grillage planking.

Q. No; and so far as you know, you have not allowed for that in your schedule? A. I am not prepared to say that.

Q. You mean to say you cannot tell now? A. No, I cannot tell just now.

Q. Very well. Now, where does the wooden fender appear in your headgate valuation? A. It does not appear.

Q. Where do the iron racks appear in your schedule? A. That is machinery.

Q. Do you call fender machinery, too? A. Yes, sir.

Q. So you left those out on account of the machinery? A. Yes, sir.

Q. And you have not reckoned in the sewers, have you? A. No, sir.

Q. How many are there? A. Several shown on the plans; I never computed them.

Q. What? A. I never computed them; there are several shown on the plan.

Q. They should be allowed for in the valuation, shouldn't they? A. There is a question whether they should be in the valuation that I have undertaken.

Q. Well, taking this plan as it is— A. They should be allowed for, yes, sir.

Q. —and where it is, they should be allowed for, shouldn't they? A. Yes, sir.

Q. Have you allowed for the water pipes? A. No, sir.

Q. Well, those should be allowed for? A. That is part of the machinery.

Q. You do not really mean that, do you? A. I do. You mean the water pipes through the rock?

Q. Yes. A. Why, certainly, that is part of the machinery.

Q. You call that part of the machinery? A. That is—

Q. Anyway, you have not allowed for it? A. No, sir.

Q. Have you allowed anything for gas pipes or steam heating pipes? A. No, sir.

Q. Nor for the wiring of the buildings? A. No, sir.

Q. In the dynamo building how far down did you calculate your excavation? A. Down to the floor level, and then allowed for excavation for trenches. I mean by the floor level, basement floor level.

Q. Well, what was the depth of the excavation you allowed for? A. I could not say now. I do not recall.

Q. How many trenches did you allow for? A. Trenches for the different walls and piers.

Q. About what number and what depth? A. I think there were only 4 walls. One was considerably deeper than the other.

Q. How nearly together are the piers in the dynamo room? A. Do you want to have me refer to the plan?

Q. Yes, if you will, please, if you do not recall. A. Well, they are pretty thick. They are not marked just what they are.

Q. Well, can't you tell, by measuring, the amount of clear between the piers? A. They are not all the same.

Q. What is the average, should you say? A. It would take me an hour to give you an average.

Q. Oh, well, never mind, then. They are very close together? A. They are very different in sizes and proximity.

Q. And they are very close together? A. Yes, sir, in some places.

Q. Did you go down to the bottom of the piers for your excavation that you have estimated here?

Mr. MATTHEWS. Do you mean physically, or with his figures?

Mr. BROOKS. I did not hear, Mr. Matthews.

Mr. MATTHEWS. Do you mean did he excavate down physically, bore down?

Mr. BROOKS. Oh, I meant his calculation.

A. I believe I did.

Q. You believe you did? A. Yes, sir.

Q. You are unable to tell me how far down you went. A. I could not tell you now, sir.

Q. Do you know on what foundation these piers rest? A. I do not.

Q. If you did not go down to the bottom of the piers in your excavation, that would account largely for the difference between your estimate of excavation and Mr. Sawin's, wouldn't it?

A. If I did not, yes, sir.

Q. In the wheel house how many windows do you allow for? A. Five.

Q. You made a mistake there, didn't you? You should have allowed for 11, shouldn't you? Can't you tell by examining the plan? A. Yes, sir. I just want to compare with my original here.

Q. Certainly; that is all right. A. There are 11 shown on the elevation.

Q. You have allowed for only 5? A. That is all my schedule calls for.

Q. And there are 11 shown on the plan, aren't there? A. Yes, sir.

Q. 11 windows? A. Yes, sir.

Q. The timber in these buildings is selected timber, isn't it, and of first class quality? A. I never put that statement to the contractors whose opinion I asked upon the value of these things.

Mr. COTTER. The answer was not quite responsive.

The WITNESS. I understood you to ask if what I figured on was selected.

Q. No, I ask you if as a fact the timber in these various buildings was not selected timber, of first class quality? A. I don't know anything about that.

Q. You can't tell anything about it? A. No, sir.

Q. If it were a fact would that raise your prices a little? A. Not at all.

Q. But you say you didn't submit that question to the contractors. A. I did not.

Q. Whose opinion you have adopted. A. I did not. I asked for prices on materials such as were found at those works.

Q. Did they go down and examine? A. I believe they did, yes, sir.

Q. Who of them? A. I named them this morning; Mr. Ranger did for one.

Q. Before he gave you his price? A. Why, yes.

Q. Are you sure about that? A. Positive.

Q. Then this is not your opinion that you are giving as to the price to be allowed for the timber; it is the price that you have adopted in consultation with somebody. Is that so? A. In consultation, and what I get from my own experience in dealing in such things.

Q. But you say you didn't consider the quality of this timber in the price you have given. A. I don't believe I said that.

Q. Didn't you tell me so a few moments ago? A. I don't think so.

Q. Now I ask you again, is this timber that is there in these buildings selected and of first class quality? A. I meant to say, and I say now, that I didn't consider it so. Perhaps I misstated it. I don't consider it first class, selected quality.

Q. Do you say that in your opinion it is not? A. I think that without any great care or selection you can get just as good timber as this at the ordinary lumber yard.

Q. You say in your opinion it is not first class timber and is not selected? A. I say it is ordinary timber.

Q. Do you say that you personally inspected it for the purpose of determining that question? A. I have examined it several times.

Q. With that in view? A. To examine its condition, yes, sir.

Q. Well, with a view of determining whether it was first class timber, as of 1898? A. With a view of determining its value.

Q. How much timber have you ever purchased of the kind and description in this plant of the Holyoke Water Power Company? A. For myself, not any.

Q. And when have you had southern pine laid at the prices that you have named here? A. The prices that I have named there—

Q. Just be kind enough to answer my question. A. I haven't had any.

Q. This pine that is in these buildings is Georgia pine, isn't it, or don't you know? A. I don't know as I know now.

Q. Would it make a difference whether it was Georgia pine or South Carolina pine, in price? A. I don't think it would make much difference.

Q. Do you mean that? A. Yes, sir.

Q. You say you can't tell whether it is Georgia or North Carolina? A. North Carolina—that is a different thing.

Q. Very well. Is this Georgia or North Carolina that is in these buildings? A. This is Georgia. It isn't North Carolina positively.

Q. Is it better than North Carolina pine? A. The dimension timber of Georgia pine would certainly be better.

Q. Is it more expensive and more valuable? A. Than North Carolina pine?

Q. Yes. A. Yes, sir.

Q. What is the difference? A. North Carolina pine is principally used in finishing lumber.

Q. I am talking now in price. A. I don't know as I am prepared to say.

Q. When have you ever given estimates on Georgia pine at the prices that you put in here, for the kind of timber in this electric plant of the Holyoke Water Power Company? A. I can't recall.

Q. Did you ever? A. I can't recall that I have at the prices. I can't recall what prices I have estimated at.

Q. Now for the spruce. When have you given prices such as are given in your schedule of valuation here, for such spruce timber as is used in this electric light plant of the Holyoke Water Power Company? A. I have many times in the last three or four years.

Q. That is \$15 or \$15.50 per thousand? A. Whatever is given there, I have forgotten what it is.

Q. It is that, isn't it? Take your dynamo room. 4-inch spruce plank, \$15.50. A. Yes, sir.

Q. To whom have you given any estimates for plank of that kind, of that thickness, at that price? A. You now say plank; you said before timber.

Q. Well, I am not going to split hairs; I called your attention to the dynamo room. A. In the construction of a number of buildings I have had to do with in the past three or four years.

Q. To whom did you ever give that price for spruce timber of that thickness? A. You want the names? Frank Langelier, Frank P. Lott.

Q. Now you are confining yourself to 4 inch spruce plank? A. I am confining myself to spruce timber.

Q. I asked you, and I ask you now, to whom have you given prices for 4 inch spruce plank as low as the prices that you have named here in this schedule. A. And then I called your attention to the fact—

Q. Be kind enough to answer that question now. A. I can't say as I have to anyone for spruce plank.

Q. Now you put in your maple top flooring at how much in your schedule? A. \$28 a thousand.

Q. That is in the dynamo building? A. Yes, sir.

Q. That is \$28 per thousand. Have you estimated \$21 per thousand elsewhere in the same plant for maple top flooring?

A. I will look and see.

Q. If you don't find it I will pass along. A. I don't find it.

Q. This was matched, wasn't it? A. I think it was, yes, sir.

Q. And planed? A. Yes, sir.

Q. And you say your information said that the market price of that new was \$28 a thousand? A. At that time.

Q. January, 1898? A. Yes, sir.

The CHAIRMAN. Speaking of that date, have you put in any valuation with reference to any other date but that?

Mr. BROOKS. Certainly.

The CHAIRMAN. Well, I don't remember it, it was so long ago. In this part of the examination you have always referred to January, 1898, both times.

Mr. GOULDING. We asked several of the witnesses what the price of material would be later.

Mr. BROOKS. Yes; that has appeared in the testimony.

Q. Did you allow anything in this price for the waste in matching? A. I allowed for the waste in the quantity.

Q. How much? A. A percentage; I don't remember now what it was.

The CHAIRMAN. What do you mean by waste?

Mr. BROOKS. In the matching of the plank.

Q. Mr. Kirkpatrick, have you estimated this kind of flooring on any other occasion at the price you have named here?

A. Yes, sir.

Q. When? To whom? A. I named one, Mr. Langelier's building.

Q. This same maple top flooring? A. Yes, sir.

Q. When did you give him any such estimate? A. I should say it was about the time I was getting up this estimate.

Q. Did he purchase it for that? A. I don't know. He built the building.

Q. I didn't ask you that. I asked if he purchased it. Who was the architect of this building which you speak of? A. I was.

Q. You have got, for the wheel house, 7500 feet of 3-inch roof pine plank? A. Yes, sir.

Q. How did you arrive at that calculation? A. The number of square feet in the roof was about 2100.

Q. Did you figure that from the plan? A. Yes, sir.

Q. Will you be kind enough to figure it? You can do it readily for me, can't you? A. Yes, sir.

Q. And see if you have not made a very large mistake there. A. (After figuring.) I don't make any difference there.

Q. You still stick to 7500 feet of 3 inch pine roof plank? A. The building is about 50 by 40 by 3 inches. That is 6000. Allow 25 per cent. waste, that is 7500.

Q. Very well. A. I don't make any difference.

Q. I see that you have on your schedule a lot of wrought iron, and you give the price of that new at \$2,115. A. Which building, please?

Q. The dynamo building. A. That is what my schedule says, yes, sir.

Q. How many pounds? This is page 6. A. I said in my direct testimony that I had not calculated that.

Q. That is the calculation of Mr. Mace Moulton? A. Yes, sir, I take his figures for that.

Q. Then you took his estimate as correct? A. Yes, sir.

Q. Did you take his figures as to price? A. I did, yes, sir.

Q. Are you sure? A. Positive. I turned over the plans and asked him to give me a price, what that iron work was worth.

Q. When he came to make his estimate to you didn't he estimate the number of pounds? A. Not in the letter that he sent to me.

Q. He simply gave you the total in dollars? A. Dollars and cents, yes, sir.

Q. Have you allowed for any zinc flashing for your dynamo building? A. Zinc flashing is always included—

Q. I asked you if you had allowed it. A. Yes, sir.

Q. Where? A. In the gravel roof; 4,665 square feet, \$373.25. That is in there.

Q. That is at 5 cents? A. 5 cents a square foot, yes, sir.

Q. And you have included zinc flashing in that? A. Yes, sir.

Q. Do you know how much that was? A. Only what I saw from Mr. Sawin's estimate.

Q. What have you allowed for the plumbing? A. \$157.

Q. Where does that show? A. The third item from the bottom.

Q. How much plumbing do you allow in that estimate, and at what price? A. I don't remember what there was there. There was some in the dynamo room.

Q. You say you can't tell me the amount? A. Only in price.

Q. Then you can't tell me the price that you allowed except in total? A. Except in total, no, sir.

Q. In your estimate of the steam engine building, did you allow for a stone wall that was taken down for the building of these buildings? A. I think not. I didn't know what it was taken down for.

Q. You didn't allow for it? I don't care what it was taken down for. A. No, sir.

Q. You said yesterday that you would disallow a large part of the brick work at the tunnel, as I understood you. A. Yes, sir.

Q. Why did you disallow that? A. I didn't see why the city of Holyoke should be called upon to pay for brick work for protecting the Holyoke Water Power Company's penstock.

Q. That is, you said for a part of it you thought the city of Holyoke ought to pay, and for a large part they ought not to pay? A. No, sir. I said I thought they ought to pay for what properly would belong to them, and what was benefit to the Water Power Company they shouldn't pay for.

Q. That is, some of it, you said, in your opinion, the city of Holyoke should pay for, for some of it they should not pay for? A. Some that is shown on the plan, you mean?

Q. Yes. A. Yes, sir.

Q. How much? A. Whatever portion—

Q. Well, how much? Give it to me in numerals if you can. A. The difference between my estimate and Mr. Sawin's, very likely.

Q. How did you arrive at just your estimate? A. Figured it from the plan.

Q. What rule did you follow as to what part of that tunnel the city of Holyoke should pay for? A. What my judgment taught me they should.

Q. Well, what fractional part of it? A. I didn't cut it up into fractions at all.

Q. Can you tell me about what portion you, in your judgment, assigned to the city of Holyoke to pay for? A. I can tell you all that is below the level of the tunnel floor, and the saddle over the penstock, I didn't consider the city of Holyoke should pay for. What it is in bricks, in dollars and cents, I don't know now.

Q. Who did you assign to pay for the sides and the arch of the tunnel? A. I didn't assign anybody.

Q. You left it entirely out? A. Left it out entirely.

Q. So there is none of the brick of the tunnel that is included in your estimate—of the sides or the arch? A. There is none of the brick shown upon the tunnel plan below the level of the tunnel floor calculated in my estimates. The brick that runs down on each side of the penstock I considered to be put there for the purpose of protecting that penstock.

Q. Which was built first? A. I don't know.

Q. The penstock or the tunnel? A. I don't know.

Q. And you didn't consider that when you came to put your valuations upon the subject? A. No, sir.

Q. Why not? A. I took it just as the plan showed it; assumed they were put there at the same time.

Q. What runs through this tunnel? A. Which way? One way the shafting runs.

Q. Where does that shafting go to? A. The shafting goes from the wheel house to the dynamo room.

Q. It is shafting connected with this electric light plant, isn't it? A. Yes, sir.

Q. And for what else is the tunnel utilized? A. Below the tunnel there is a penstock.

Q. Is that the penstock of the electric light plant? A. No, sir, that is the penstock of the testing flume.

(Adjourned to Thursday, Nov. 22, 1900, at 10 A.M.)

THIRTY-EIGHTH HEARING.

BOSTON, Thursday, Nov. 22, 1900.

The Commission met in the Court House at 10 A.M.

JOHN J. KIRKPATRICK, *resumed.*

Mr. MATTHEWS. I desire simply, before Mr. Brooks proceeds, to call attention to the fact that the so-called Ellsworth plans, which were originally prepared for the city, were produced last evening and have been in the possession of counsel for the Company since the adjournment yesterday.

Mr. BROOKS. Do you wish to ask him anything in reference to those.

Mr. MATTHEWS. I think not.

Cross-examination by Mr. BROOKS, continued.

Q. Mr. Kirkpatrick, at the close of the session yesterday afternoon I was making some inquiries of you in reference to the tunnel through which the shafting runs to the electric light station. Which was built first, the penstock or the tunnel? A. I don't know.

Q. In what way is the tunnel of any aid to the penstock? A. None whatever.

Q. And is the tunnel used for any other purpose than for the passage of shafting and the passage of people to the electric light station, so far as you know? A. I think not.

Q. Do you know the cost of the construction of that tunnel? A. The actual cost, I do not.

Q. Did you make any estimate of the value of that tunnel as of 1898? A. I believe I did.

Q. Of course that does not appear in your schedule of valuation that is introduced here? A. You asked me if I made an estimate of the value of the tunnel of 1898? Did I understand you correctly?

Q. As of 1898. A. I believe that is what is included in my estimate.

Q. The entire tunnel? A. The entire tunnel, I believe, yes, sir.

Q. Well, you don't really mean that? I thought you left out the walls in your estimate? A. You mean the walls below the tunnel? I don't consider—

Q. I mean the walls that support the tunnel. A. I didn't consider those a part of the tunnel.

Q. If the penstock was first constructed, in what does the tunnel or its foundations aid the penstock? A. None whatever, that I now recall.

Q. Mr. Kirkpatrick, as I understood you the other day, you say that from certain tables you deduced the life of these buildings? A. I believe I said that I studied certain tables in considering the life of the buildings.

Q. Well, I understood your testimony the other day to be that, first, you studied Spaulding's tables? A. Yes, sir.

Q. With reference to the life of the buildings; and that your estimate was based upon the tables that you thus studied? A. My judgment was formed somewhat, I believe I said.

Q. Well, wasn't your judgment entirely in accordance with the so-called Spaulding tables? A. No, sir.

Q. I understood your percentage of depreciation was just the same. A. My percentage of depreciation is practically one-half of what is allowed by Mr. Spaulding.

Q. How did you arrive at that? A. At my allowance?

Q. Yes. A. After studying his tables and other books that I had read upon the subject, and considering the life of some of these materials as I believe them to be, I arrived at those terms.

Q. That was a jump estimate, wasn't it? A. No, sir.

Q. That is, you didn't go into the details of the depreciation of the various buildings? A. I went into the details of each item, yes, sir.

Q. Where is that detail? A. Shown on my schedule.

Q. Each item? A. Yes, sir.

Q. Well, it was a percentage depreciation, wasn't it? A. Yes, sir.

Q. Were there any tables studied by you relating to gas and

electric works? A. The life of the buildings in gas and electric light works?

Q. Yes. A. I believe so, yes, sir.

Q. What tables? Who is the author? Was it Spaulding?

A. No, sir. I think the author of it was Henry S. Chase.

Q. It is true that in gas and electric light buildings, constructed as these are, there is a very much less depreciation than in the ordinary factory buildings at the present time, isn't it?

A. I don't see any reason why there should be.

Q. Wouldn't load and vibration make quite a difference in the depreciation of buildings? A. Yes, sir.

Q. Having those two elements in mind, wouldn't you now say that there was less depreciation in buildings of this nature than in the ordinary factory buildings, paper mills and cotton mills and woolen mills and foundries, etc.? A. I believe you have load and vibration in these buildings.

Q. How much vibration is there in a gas works as compared with a cotton mill and a woolen mill? A. My mind was particularly on the electric light station.

Q. Mine happens to be just this moment on the gas.

The CHAIRMAN. He is asking about the gas.

A. There is an engine and a water wheel in the gas plant, in one of the buildings.

Q. Perhaps you intend to answer my question—I don't doubt that you do. Do you say that there is comparatively anywhere nearly the vibration and the load required of these buildings as in the ordinary factory buildings? A. There isn't any such load on the walls in these buildings as there is upon the walls of a cotton factory, no, sir.

Q. Or almost any other kind of a factory? A. I think the vibration upon the gas building is less than almost any kind of factory I might mention.

Q. And is very much less? A. Is less—yes, considerably less.

Q. The engine is of small capacity? A. As I recall it.

Q. And is on its own foundation? A. I don't remember that.

Q. You don't recall whether it is or not? A. No, sir.

Q. Now isn't that same true, in degree at least, with reference to the electric light buildings? A. You mean the engine for the blower? Is that the one you have in mind?

Q. Whatever engine there is there. A. Out in the water gas plant; that is on its own foundation.

Q. And what is the capacity of the engine? It is a very small one, isn't it? A. Very small, yes, sir.

Q. Now running along to the electric light plant, isn't it true also that in these electric light buildings there is less vibration and less load than in the ordinary factory buildings at the present time? A. I think there is considerable load in the basement and on the first floor of the electric light station.

Q. I do not ask you as to the load in the basement. That is right on the ground, substantially. I did not want to go into it very much in detail. I was asking you the general question. Isn't it a fact that the load and the vibration in these buildings is much less than in the ordinary factory building? A. I could name several factory buildings, Mr. Brooks, where there is considerably less vibration than there is in the electric light station.

Q. Well, I say, generally? A. Then I can't answer that yes or no.

Q. Very well. The load of these electric light buildings is really upon its own foundation, isn't it—very largely upon its own foundation? A. All that I know of is resting directly on the first floor.

Q. I didn't want to go into the detail of that with you if I could help it. Isn't it a fact that very largely the load of these electric light buildings is upon its own foundation? A. The only portion of it that is on its own foundation is in the basement. That is the shafting and whatever machinery goes to connect with it.

Q. Is there practically any load upon the second floor of the electric light buildings? A. I think it is a very light load.

Q. Is there practically any load in these buildings excepting in the basement? A. I couldn't say, sir. I don't know the weight of those dynamos that are located on the first floor.

Q. Now take the other phase of it. The motion there is a rotating motion, isn't it? A. Isn't it in all manufacturing buildings, a rotating motion?

Q. I mean the electric light buildings. A. The motion of the machinery is a rotating motion.

Q. Well, of course that is true. What do you mean by machinery? A. I mean everything used.

Q. That is, it is not a reciprocating motion, like an engine, for instance? A. I don't believe you would call it such, no.

Q. Isn't it, then, too, that there is a much less vibration in these electric light buildings than in the ordinary factory building? A. I don't believe that is positively true, no. I can name you factory buildings where there is no vibration.

Q. I am putting a general question. A. I cannot answer it generally, because I am not—

Q. I will repeat the question. Isn't there very much less vibration in these buildings than in the general run of factory buildings? A. That is practically the same question exactly; the—

Q. I was trying to make it just as general as I could. I am not asking for the exceptions to any rule, I am asking for the general rule. A. I can name you several buildings where there is more vibration than there is—

Q. I don't ask you that. A. Then I don't know; I can't answer that question.

Mr. BROOKS. (To the stenographer.) Repeat the question once more; then if he cannot answer it I will let it go. (Question read.)

A. I will answer that yes and no.

Q. What is that? A. Yes and no.

Q. Well, I guess that is satisfactory. Where does there any allowance for the monitor on the boiler house of the electric light plant appear in your estimate? What page? A. In the items—

Q. What page? A. Page 8 of my schedule, the items marked "Southern pine timber, roof plank, finishing lumber, windows and frames, 26." I think that is a portion of it. That is, some of those 26 windows and frames are in that monitor.

Q. Are in what? A. Are in that monitor.

Q. How much finishing lumber have you allowed for your monitor? A. I do not recall; an item of finishing lumber—

Q. Will you figure it? Will you tell me from the plans? You have a plan of this monitor here, haven't you? A. Yes, sir. I make about 160 square feet of cornice boards, 80 linear feet of molding, 48 square feet of clapboards, 40 square feet of corner boards, and 33 square feet of—

Q. Of what? A. Casings, I guess.

Q. What? A. Casings.

The CHAIRMAN. That is near enough, is it not, Mr. Brooks?

Mr. BROOKS. I don't know.

Q. How many thousand feet does that make of finishing lumber? A. Thousand feet in board measure, you mean?

Q. Thousand feet. A. In board measure?

Q. You say that that is all the finishing lumber that is in that monitor? A. That is all I see now, yes, sir.

Q. Did you make your original estimate from that plan? A. I believe I did.

Q. How about the iron in the monitor? A. Mr. Moulton gave me that.

Q. He made the estimates for that? A. He gave me the estimates for all the iron work in all the buildings.

Q. That covered, of course, the monitor. Now, will you turn for a moment to the plan of the chimney of the electric light works? A. I have it.

Q. Assuming that the soil where this chimney is built is heavy soil, that the puddling extends four feet below the flaggers, and that the slope is 1 1-2 to 1, what would be the amount of excavation there? A. If I understood your question—

Mr. BROOKS. (To the stenographer.) Read him the question, please.

(The question was read by the stenographer.)

The WITNESS. The depth of the excavation—

Q. What was the amount? I don't care about the details; give me the amount in yards. A. I figured first without the flagging which you afterwards called my attention to, 940 yards, and then putting in the flagging as it is, square, without allowing for the slope, 30 yards, about 970.

By Mr. GOULDING.

Q. How much? A. 970 total.

By Mr. BROOKS.

Q. That is, you figure 970 cubic yards according to that plan? A. According to the slopes that you have given me, yes, sir.

Q. And you are pretty sure that that is correct? A. I have only figured it over once.

Q. Well, all right. In your estimate I see you allowed 333 cubic yards? A. Yes, sir.

Q. Would there be on the assumption that I have made with you, 135 cubic yards of puddling? A. Without including the slope on any puddling I figure it to be, at 4 feet deep, about 116 yards.

Q. Well, including the slope would that make it substantially 135 cubic yards—make the puddling 135 cubic yards? A. Puddling 4 feet high?

Q. Yes. A. I make it about 170 yards.

Q. 170 cubic yards? Well, I guess you have got that a little too much, according to our figures, but that don't make any difference. The figures that you give in your estimate of the puddling for the chimney are 66 cubic yards? A. Yes, sir.

Q. Would the back-fill be 945 cubic yards on the assumption that I have already made? A. Assumption of a foot and a half slope?

Q. Yes, a foot and a half to one? A. I make it a little less than 800 yards.

Q. A little less than— A. A little less than 800 yards; about 797.

Q. That is what you make it? You allowed in your schedule for 90 yards? A. Yes, sir.

Q. Of back-fill? A. Yes, sir.

Q. Running back for a moment to the puddling, which you say you make 170 cubic yards, I presume you didn't allow for the piling, did you, in your figures? A. What do you mean, I didn't deduct the piling?

Q. Yes. A. I don't believe I deducted the piling or the nail-holes in the piling; that is not usual.

Q. That is all I was getting at; I was trying to correct you if I could. A. No, I didn't deduct the piling.

Q. How much piling is there? A. All I know about that is what your estimate says, 121, if I remember correctly.

Q. How deeply did you estimate they were driven? A. I think I estimated what your schedule says.

Q. How much? A. Or the schedule of Mr. Sawin.

Q. Will you be kind enough to look at that, and see if you are in error, or correct? A. There is nothing in my schedule that would show the length.

Q. Can you tell me from anything that you have how deeply you estimated those were driven? A. No, I cannot; I have not the schedule with me.

Q. Do you recall whether they were 24 feet long or not? A. I could not say.

Q. What was your estimate of the value of those, new? A. I put \$3.50 apiece and allowed no depreciation for those.

Q. Do you know what it cost to drive those? A. Only what the general cost of driving piles was at that time.

Q. Don't it make a difference where the piles are driven and to what depth they are driven? A. Yes, sir.

Q. And not having estimated the depth that they were driven, how can you get at the value of the piles driven? A. I took the estimate of depth as given somewhere, I believe, in the quantities of Mr. Sawin. I am not positive about it.

Q. Did you estimate that those were 24 feet? A. I don't recollect what length I did estimate.

Q. Well, if it cost \$10 apiece to drive those piles, you would want to raise your figures, wouldn't you? A. If it did, yes, sir.

Q. Mr. Kirkpatrick, how much did you allow for the driving alone of these piles? A. I could not tell you now; I would have to look that up.

Q. Then, of course, you could not tell me what you allowed for the piles? A. Per pile, \$3.50.

Q. What you allowed for the pile alone, for the value of the pile? A. No, sir.

Q. That is all right. A. You mean separated from the driving?

Q. Yes. A. No, sir, not at this time I cannot.

Q. Do you know whether or not there has been a demand for more municipal lights in the city of Holyoke? A. Do I know?

Q. Yes.

Mr. MATTHEWS. What do you mean by municipal lights, Mr. Brooks?

Mr. BROOKS. I mean lights for the city.

Mr. MATTHEWS. Street lights?

Mr. BROOKS. Street lights, yes.

A. I think I know something about that.

Q. Is there such a demand? A. Very small demand.

Q. For increased street lights? A. Very small demand.

Q. You say a very small demand? A. Yes, sir.

Q. Do you know whether or not the Board of Public Works passed a vote to increase the number of street lights 141? A. I think that was a political vote for political purposes.

Q. I didn't ask you that, did I? Why can't you answer my question? A. Will you please repeat the question? (Question read.) All I know of that is from what the newspapers say.

Q. Is that so? A. Positively true. I have never seen their records on that subject.

Q. Don't you know it otherwise than from the newspapers? A. If you are getting back at that old political campaign, I think I know it all from that—

Q. Excuse me a minute; I didn't ask you about your political campaign or anybody's political campaign. You say that all you know with reference to the Board of Public Works is what you have seen in the newspapers? A. I believe that is all I know of it.

Q. And you never have found it out in any other way? A. I never searched the records of the Board to determine, no, sir.

Q. Nor talked with the members of the Board nor the clerk of the Board? A. I believe I did criticise the act of the Board to the Chairman.

Q. Yes. You know, don't you, that there was a vote passed for an increase of 141 street lights in the city of Holyoke? A. I don't know the number, sir.

Q. Don't you know it was 141? A. No, I don't know the number.

Q. Was it more than a hundred? A. It was enough, I believe, to bring the amount up to 400 lights. What the number was I cannot say.

Mr. MATTHEWS. Those are street lights?

Q. Don't you recall the present number of lights there, or the number of lights in 1898?

Mr. COTTER. Did you say something, Mr. Matthews?

Mr. MATTHEWS. I just asked if those were street lights.

Mr. BROOKS. Yes, I confine it to street lights.

Mr. MATTHEWS. And what body was it that passed this vote, or alleged vote?

Mr. BROOKS. The Board of Public Works, the only board that could pass it under our charter.

A. No, I don't recall the number they have.

Q. Very well. A. It is something like 250 or 260; I cannot say what.

Q. Something like 250 or 260? A. Yes, sir.

Q. You say that you allowed no slope for the wheel pit toward the canal of the Holyoke Water Power Company? A. Which canal?

Q. The first level canal? A. No, sir, because the excavation of the head gate runs down to the wheel pit excavation.

Q. You say that your slope would not be in the direction of the canal at all? A. Not in the direction of the first level canal, in figuring for the wheel pit and tailrace.

Q. You are quite positive about that? A. I do not see the necessity of considering a slope both ways. You have got to consider—

Q. I am only asking you how you calculate it. A. We will cut that headgate, wheel pit and tailrace into three sections, Mr. Brooks—

Q. You say you calculated no slope toward the canal? A. Not on the wheel pit.

Q. That is what I am talking about. A. No, sir:

Q. Neither on the wheel pit nor tailrace? A. Neither on the wheel pit nor tailrace.

Q. How near would your excavation come to the canal wall? A. Your excavation next to the canal wall is figured in the excavation for the headgate.

Q. Is it 15 feet away? A. You would go right out to the canal wall in the excavation of the headgate.

Q. Did you allow anything at all in your estimate for protection of the canal wall or for the protection of the excavation? A. For the protection of the canal wall?

Q. Yes. A. You mean a coffer dam?

Q. I don't care what you call it, coffer dam, sheet piling, or anything else. A. I believe in making up my figures it occurred to me that a coffer dam would be necessarily built there to protect those things.

Q. Yes. How much did you allow for the coffer dam? A. I don't know as I have got that item stated specifically.

Q. You have not in your schedule? A. Yes.

Q. I think. But how much, as a matter of fact, did you allow for the coffer dam? A. I do not recall at this moment.

Q. Have you anything that would afford you information in that respect? A. Not that I know of.

Q. Well, in your opinion, what would be the cost? A. I can figure it out.

Q. Will it take you long? A. Ten minutes.

Q. Let it go. Mr. Kirkpatrick, will you turn to your estimate of the value of the gas buildings and tell me what was the entire amount allowed by you for the excavation of the three holders, and give me the depth, the width and the slope of the various excavations of the three holders? A. Do you want that now?

Q. Yes; will it take long? A. I guess we might as well have a recess now, then.

Q. Well, can't you tell me readily the depth, width and slope that you allow for them? A. No, sir, I have got to figure all that out. I cannot tell you the slope now. There is nothing in my schedule—

Q. Where are the figures for the depth, width and slope for the excavation of the three holders of the gas plant? A. The width and depth I can give you in a very few moments; the slope I will have to figure.

Q. I asked you where your figures were for those elements. A. I don't know as I understand; if you mean—

Q. You figured it once; didn't you preserve your figures? A. No, sir. Since I made those figures I have moved my office twice.

Q. Would it take you long to tell me the amount of slope that you figured for these holders? A. No, I will figure it up.

The CHAIRMAN. You might do it afterward and hand it to Mr. Brooks and have it put on the record.

Q. Give me the depth and the width. A. Yes, sir.

Q. You can do that readily, can't you? And you will figure your slope and let me have it during the day, Mr. Kirkpatrick? A. Yes, sir, I will try to.

Q. Mr. Kirkpatrick, just a second. Can you give me the width of the excavation at top and bottom? A. At the present time?

Q. Yes. A. That I figured it? No, sir.

The CHAIRMAN. Do all those things some time today, Mr. Kirkpatrick.

The WITNESS. If I am allowed to get off the stand long enough, yes, your Honor.

The CHAIRMAN. Yes.

Q. Give me the depth and the width of the three excavations at the bottom.

The CHAIRMAN. Do you want them now?

Mr. BROOKS. He has got it on the plan; it won't take him a minute.

Mr. MATTHEWS. These are the figures at the bottom, are they?

Mr. BROOKS. Yes, he cannot give it to me at the top.

The CHAIRMAN. (After a pause.) Gentlemen, I would like to be patient, and it doesn't make any difference to me, but whatever you require on this line of detail of course you might let him furnish you with off the stand.

Mr. BROOKS. I was informed that it wouldn't take but a minute to get from the plan the depth of the excavation and the width at the bottom. I agree that your Honor's suggestion is very pertinent. It is simply leading to other questions that I desire to ask, and I don't know just how I can manage that, because we had assumed that he was going to have the original calculations. I agree with your Honor that it is very tedious, but I don't quite see under the circumstances how I can help it.

The CHAIRMAN. Of course you cannot help it. If you wish to pursue this line of inquiry it is undoubtedly proper.

A. Number 2 gas holder is 70 feet at the bottom, about 19 feet deep; No. 3 is 96 feet at the bottom, about 22 feet deep; No. 1 is 70 feet, about 21 1-2 feet deep.

Mr. BROOKS. May it please your Honors, at the risk of being very tedious, under the extraordinary circumstances that have developed here, I do want to ask him to give me the slope of one holder.

The CHAIRMAN. Go ahead.

Mr. BROOKS. Of course we are quite at a disadvantage, because the various witnesses called here seem to have lost their original calculations.

Q. What angle of slope did you allow for the No. 2 holder?

A. I don't know. I don't remember.

Q. Whatever allowance you made, was it a book allowance or your own individual opinion of an allowance? A. My own opinion.

Q. I see as you are about to figure this you take a book and put it before you. For what purpose? A. To ascertain the area of the circumference—of the circle, rather,—without going through the method of calculating.

Q. Now give me your allowance for slope in this No. 2 holder excavation. A. I can't determine the angle of that slope from what I have.

Q. Then you can't tell me the amount of slope? A. No, sir.

Q. That you figured as part of this excavation? A. No, sir.

Q. Why can't you tell me? A. The method I used in figuring that I don't believe was exactly as you intend I shall figure it now.

Q. I didn't tell you that you should do anything except to answer the question. Why can't you figure the amount of slope that you allowed in this excavation? A. Because when I originally figured that thing I figured it to a certain depth, almost to the bottom, the rest of it to be thrown over behind the walls as they were built up, excavating and back-filling at the same time.

Q. You have already testified you allowed for slope for this excavation. Now, why cannot you tell me from those plans how much you would allow or did allow? A. If you figured it 70 feet in diameter my slope would come to about 100 yards.

Q. Is that an answer to my question? A. I think so.

Q. You can't figure your slope without your angle, can you? A. Figure it in quantity, yes.

Q. Without your angle? A. Yes, sir.

Q. And accurately? A. Yes, sir. I suppose you know—

Q. What do you mean when you say the slope may be 100 yards? A. 100 cubic yards.

Q. How do you determine that? A. I see what I have estimated my quantity, 2800, and deduct an area 70 feet in diameter by 19 feet high, which would give it, if those figures are correct.

Q. You can't tell me how much slope you figured? A. No.

Q. You cannot, of course, give me the angle of the slope, you say? A. No.

Q. You cannot tell me how much the slope will amount to by figuring from the plans that are before you? A. Only in this way, by deducting—

Q. That is, you take your total and you make a certain deduction? A. Yes, sir.

Q. Well, that is a guess, of course, isn't it? A. I have been a long time guessing at it.

Q. Well, I know, and you have come to the conclusion that you cannot give me the amount of slope? A. From the figures that I have I cannot.

Q. From what figures that you have in Holyoke can you derive the amount of slope? A. I have no figures anywhere.

Q. Now would that same thing be true of the various other slopes to the various other excavations? A. It would be true that I couldn't say what allowance I made.

Q. That is, with reference to all the excavations? A. Except that that I told you particularly about yesterday, that I have figured out for you.

Q. I mean all the excavations with reference to the gas plant. A. I think that is so, yes, sir.

Q. You have given me the diameter of No. 2 as 70 feet at the mouth, No. 2 holder? A. Yes, sir.

Q. Well, that is the inside diameter? A. That is the external diameter of the tank.

Q. Now, should you not go two feet on each side of it? A. No, sir.

Q. So that the diameter would be 74 feet? A. I don't see any reason for doing so. If a man was going to do that actually—

Q. No reason occurs to you for doing that? A. No, sir. If a man was going to do that—

Q. Well, you have answered my question. A. Excuse me.

Q. Have you any formula or rule that you followed in determining the excavation? A. The usual formulas and rules for such work.

Q. Well, what rule did you follow, or formula did you follow in determining the amount of the various excavations of these—
A. Determine the depth and the width, and proceed by multiplication and division and obtain the quantity.

Q. That is the only formula that you have in mind to get at

an exact determination of the amount of excavation? A. Do you want the method of determining the area of that? Is that what you mean?

Q. To determine the amount of excavation, what rule or what formula do you follow, if you follow any? A. You first determine the area of the tank or excavation.

Q. Yes. A. Multiply it by the height, and divide by 27, if I understand you correctly.

Q. Does that give the entire excavation? A. I think so.

Q. You have got a certain amount of excavation in your schedule allowed for; what I am after is, to have you tell me the rule that you follow in determining that amount of excavation. A. I think I have done so.

Q. Well, you think so? Then you didn't allow for the slope, did you? A. I believe I did.

Q. If this rule that you have stated is the one that you followed, you did not allow anything for slope, did you? A. Yes, sir.

Q. How does it come within that rule? Where is there anything in that rule that gives anything for slope? A. As soon as you determine the area,—that must be determined by the diameter,—the diameter can be made large enough to cover all the excavation that is required.

Q. Ah, yes, but that is not the rule that you followed? A. That is the rule I stated to you.

Q. No, you said that you would take the diameter, didn't you, of the excavation? A. Yes, sir.

Q. Now, do you swear to this, that you allowed anything for slope there? A. I certainly did. I might not have allowed it the way you folks have allowed it.

Q. How do you determine anything with reference to slope by your rule of the diameter at the bottom of the holder? Haven't you got to have the diameter at the top of the holder? A. I didn't say the diameter of the bottom of the holder, Mr. Brooks. I said the diameter of the excavation, which—

Q. Which would mean the diameter of the—

Mr. MATTHEWS. Excuse me; won't you allow the witness to finish the answer?

Mr. BROOKS. He had finished it.

Mr. MATTHEWS. I think not; he had a word "which"—

The WITNESS. Which might mean that the person doing the computing took the average diameter or the bottom diameter or the top diameter.

Q. Which did you take? A. Whatever I thought in my judgment ought to be taken.

Q. Which? A. I don't recall.

Q. How did you calculate on the back-filling being accomplished? A. The back-filling in some of those tanks—

Q. Of those that I am talking about now? A. The tanks?

Q. Yes. A. Yes, sir, the back-filling in those tanks. I would consider when the man was doing the excavating he would get down within three or four feet, or two or three feet, whatever it might have been, of the bottom of it, and then dig his trenches around for the walls.

Q. Yes. A. As soon as he had done that, and the walls were laid and properly set, throw the rest of the excavation that was in the center over behind the walls for back-filling to save the necessity of hoisting it up the full height.

Q. That is, you would dump it in? A. Or shovel it in.

Q. Well, what method did you pursue in determining the amount of back-filling, and can you tell me now the amount of back-filling for the various places? A. I can tell you the amount I estimated.

Q. Can you tell me from the plan the amount? A. The amount that ought to be depends upon which way you are figuring, whether you are going to take the slope away down to the bottom, or begin, as I said, with our method.

Q. Can you tell me how you did it? A. I don't recall now, no, sir.

Q. Well, now, wouldn't you think it would be very proper to have your back-filling in layers or rammed in a job of this kind? A. It might be well to have it done so.

Q. You didn't estimate it on that basis? A. I estimated the back-filling—

Q. Did you estimate it on that basis? A. As being rammed, no, sir.

Q. Nor laid in layers? A. No, sir.

Q. If that was a proper thing to do, that would increase your

figures materially, wouldn't it? A. If that was a proper thing, yes, sir.

Q. You say it is a proper thing as a good engineer, don't you? A. I don't say it is an essential thing.

Q. Do you say that it would be good practice to do it? A. Sir?

Q. Would it be good practice to do it? A. I think it would be well to do so, sir.

The CHAIRMAN. What?

The WITNESS. Well to do so.

Q. What allowance did you make for taking care of the water upon this land for these three holders, if any? A. I don't know that I have any.

Q. Would it be good practice to make such an allowance, considering where this location is? A. If there was water there, yes, sir.

Q. Well, now, what experience have you ever had in estimating the value of laying brick in gas tanks or holders? A. None whatever.

Q. And is this your first experience? A. In gas tanks and holders, yes, sir.

Q. Do you know how these brick are laid, whether in cement or mortar? A. I presume cement; good practice would make them cement.

Q. What do you say you allow for the laying of the bricks of the holders,—how much per thousand? A. Nine dollars and a half.

Q. Well, now, how much of that was labor per thousand? A. I could not tell you that, sir.

Q. How much was brick? You cannot tell me that, of course, if you cannot tell me the labor? A. No, sir.

Q. What? A. No, sir.

Q. You cannot give me any of the details that go to make up this nine dollar and a half allowance for brick of the holder laid? A. I said before that I didn't make up those prices, that I obtained them from the contractors.

Q. You cannot give me the detail? A. Sir?

Q. You were not able to give me any details? A. No, sir.

Q. Inasmuch as you speak of that, from whom do you say you got this estimate? A. For the brickwork?

Q. Yes. A. Some of it I received from O'Connell & Sons, and some from George W. Richards, and some from—

Q. I am talking now about the brickwork of the holders. A. I am talking about all the brickwork.

Q. Of the holders? A. On the whole job, holders and all.

Q. From whom did you obtain any estimate of the value of the brickwork of the holders? A. From the same party that I received the estimate of the whole.

By the CHAIRMAN.

Q. Who was it? A. Mr. Ranger, Mr. Richards, Mr. O'Connell.

By Mr. BROOKS.

Q. They each gave you estimates of the brickwork of the holders? A. Of each of the buildings—of all of the buildings. They took the plans and saw what there was to be done.

Q. They gave you a general estimate for the whole business? A. For the whole job.

Q. There was no specific estimate, then, made upon the holders? A. No, sir.

Q. They didn't give the same figures, did they? A. No, sir.

Q. Which did you take? Did you take an average, or did you take the lowest estimate? A. I took the—did you ask whose or which?

Mr. BROOKS. (To the stenographer.) Just read him the question.

(The question was read by the stenographer.)

A. I took about an average.

Q. Whose figures did you take? A. Whose?

Q. Yes, whose? A. Mr. Ranger's.

Q. That is, you chose Mr. Ranger's figures? A. Yes, sir.

Q. What was the difference? Do you remember the differences between these gentlemen in their figures? If you don't, I will not stop. A. I believe one was—

Q. Do you remember? A. I think I do.

Q. Mr. Ranger was the lowest one, wasn't he, of the three? A. No, sir.

Q. What was the estimate of the others? What was the estimate of Mr. Ranger, this same estimate you have given here, \$9.50? A. \$9.50 was Mr. Ranger's.

Q. What was Mr. O'Connell's? A. \$9.25.

Q. What was the estimate of the other man? A. \$9.75 and \$10.

Q. \$9.75 and \$10? A. Yes, sir.

Q. Who was he? A. Mr. Richards.

Q. Did they estimate on bricks and cement, or bricks and mortar? A. Both.

Q. What was the price for each? A. Sir?

Q. What was the price for each? A. They gave me it as a lump; they gave it to me in a lump, one figure.

Q. That is, each gave you a lump estimate? A. Yes, sir.

Q. You told them what were the purposes for which you wanted it? Of course they must have known the purposes for which you wanted it? A. They saw the plans.

Q. They were not estimating on an actual—they knew they were not estimating on an actual job, didn't they? A. I believe they knew that, yes.

Q. They knew they were estimating for lawsuit purposes, as you did? A. I believe they knew that.

Q. How many brick will a man lay a day in such construction as these constructions? A. I don't know as I could say; I never kept track.

Q. You are an architect and have been a city engineer. You say you could not say? A. I could not say.

Q. Mr. Kirkpatrick, did you know that in the building of gas tanks it was customary to excavate a well near the tanks that were being excavated for, and build a drain around the bottom, and use instrumentalities for the purpose of ridding the excavation for the gas tank of water? A. No, sir.

Q. If that were necessary, it would increase your figures very considerably, would it not? A. My estimate includes no such thing.

Q. I didn't ask you that; I asked you if it would increase your figures very materially? A. My figures are of the building.

Q. That you figured for excavation here? A. Yes, sir, of the excavating of the building.

Q. That would increase your figures very materially, would it not? A. I told you yesterday I didn't include the sewers and drains.

Q. I have not asked you about the sewers and the drains. If

it was necessary to make more excavation for the purposes of ridding the proposed permanent excavation of water in the manner that I have detailed to you, it would increase your figures very materially, wouldn't it? A. I believe it would increase them.

Q. As an engineer you would say that it was absolutely necessary to keep the water away from the bottom of the excavation for the tank, wouldn't you? A. I don't know as I qualified for a gas engineer.

Q. This is not gas engineering alone. A. I think that would be good judgment in any case.

Q. Well, it would be necessary, wouldn't it? A. I don't know about that.

Q. What would happen from the outside pressure of the water to the bottom of this tank? A. The outside pressure against the walls of that tank?

Q. Yes. Knock the bottom out, wouldn't it? A. No.

Q. And would not lift it up, in your opinion? A. Lift up those brick walls in that tank? I don't believe it would.

Q. I am talking about the bottom. You haven't got brick walls at the bottom, have you,—under the bottom of the tank? A. I understand you have got a brick wall 12 inches thick through the bottom of that tank.

Q. You say you don't think, then, substantially, that it would be necessary to rid the bottom of that tank from any liability to water? A. I said it would be good practice in any case.

Q. When you estimated the foundations for this gas plant, did you go down as far as these plans show the foundation ran? A. I have no details; I could not give you that.

Q. You cannot tell me whether you went down as far as these plans show the foundation went, or not? A. I know of one or two instances where I didn't.

Q. Well, I am asking you now generally. Did you go down as far in making your estimates as the plans show the foundations? A. In a few instances I didn't, no, sir.

Q. In what instances did you? A. I will have to refer to the plans.

The CHAIRMAN. You went over that the other day, Mr. Brooks. You cross-examined him on that; you asked him about this very thing.

Mr. BROOKS. Not with reference to the gas plant, I think, your Honor.

The WITNESS. (Referring to the plans.) I don't believe I went down as deeply as the plans show for the pipe shop, meter house room and lime room building. My impression is now that the water gas meter room runs down to a considerable depth as shown on these plans below what I figured it.

Q. When you have completed that answer, Mr. Kirkpatrick, I will ask you another question, if you will let me know. A. I think the same is true of the exhauster, condenser and purifying building. I think with those exceptions I computed the build-ings as shown on the plans.

Q. I understood you to say yesterday that in obtaining your valuation of the buildings of the gas plant you estimated partly from Mr. Ellsworth's plans and partly from the Holyoke Water Power Company's plans? A. Yes, sir.

Q. And you are unable now to tell me how much you esti-mated—what part of your estimate was from Ellsworth's plans and what part was from the Holyoke Water Power Company's plans? A. I could not tell you anything about it. The Ells-worth plan was prepared first.

Q. I understand that. Is there any difference between these two plans, the one known as the Ellsworth plan and the one known as the Holyoke Water Power Company's plan, which latter is already an exhibit in the case? A. I cannot say that I have compared them. I don't remember that I compared them.

Q. Which plans did you submit to the contractors from whom you obtained their estimate of brick-laying? A. I think some of them have seen both.

Q. That is hardly an answer to my question. A. I know that Mr. Ranger has seen both,—

Q. Which plan did you submit to those three contractors from whose estimates you say you formed yours? A. I think I started to answer you—

Q. Well, I am not certain but what you did. A. —that Mr. Ranger had seen both, and Mr. O'Connell saw both. I don't re-member which Mr. Richards did see.

Q. Which did they figure from? A. I could not say that.

Q. The city's or the water company's? A. I could not say that, sir.

Q. Now, from which plans did the various gas experts figure who will be called or who have been called in this case?

Mr. MATTHEWS. Well, hadn't you better ask him whether he knows first?

Mr. BROOKS. Oh, I might. Frankly, I assumed that he knew enough to say that he didn't know if he didn't.

Mr. MATTHEWS. You ask him a question which he may not know anything about.

Mr. BROOKS. I think the question is proper.

Mr. COTTER. Yes, I take it, Mr. Matthews, if he does not know he will say so. That question may be answered.

Mr. BROOKS. (To the stenographer.) Read him the question.

(The question was read by the stenographer.)

A. I think some of them have figured from both, or some have seen the Ellsworth plan and others have seen this plan (indicating).

Q. Some have seen one and some have seen the other? A. Yes, sir.

Q. Which have figured from the one and which have figured from the other? A. I could not say that.

Q. Who of them have figured from the one, and who of them have figured from the other? A. I could not say that.

Q. Can't you tell me? A. No, I couldn't really tell you; I don't know, I have forgotten.

Q. You were in close relations with them? A. I saw most of them, and there is a lot of them I have not seen.

Q. Well, you saw most of them and there are a lot of them you have not seen? A. Yes.

Q. I see; that is an illuminating answer. You went over the plans with each expert, didn't you? A. I don't believe I did.

Q. Do you recall one with whom you did not go over the plans? A. Yes, sir.

Q. I mean of the city's? A. Of any.

Q. I mean of the city's experts. A. I mean one expert that I did not go over any plan with.

Q. All right, who is he? Name him. A. I don't know as I want to name him without the consent of—

(The question was objected to and after discussion was withdrawn.)

Q. Mr. Kirkpatrick, do you know how much your figures would be increased by the foundations that you did not figure into your estimate? A. I had those at one time, but I have lost them.

Q. That was hardly my question now. A. Well, I do not.

Q. Did you make the estimate yourself of the brick necessary for holder No. 1, or did that come from some contractor? A. I made the estimate of the quantities. Is that what you mean?

Q. Did you make the estimate of the quantities or did the contractor make the estimate of the quantities? A. I made the estimate of the quantities myself.

Q. From the plan? A. I believe so, yes, sir.

Q. You have 440,000? A. Yes, sir.

Q. Can you tell me how you arrived at that amount, what was the depth of the wall, and so on? Have you got that in detail? A. No, I haven't it in detail.

Q. Did you go by our plans or the Ellsworth plan in getting that? A. I don't remember.

Q. Now holder No. 3, you have an estimate of brick considerably less than ours. Did you go by our plan or the Ellsworth plan there? A. Mr. Ellsworth made no plan of holder No. 3.

Q. He made no plan at all? A. I think I went by the plan of this.

Q. You mean the Company's plan? A. Yes, sir.

Q. How far did you go down? A. I believe I went as far as the plan calls for.

Q. Will you just look and see whether you did or not? A. Well, I haven't the detail of it. If you want to have me figure it I will do it.

Q. Did you have another plan of this holder made by somebody else? A. Yes, sir.

Q. A city's plan? A. Yes, sir.

Q. Where is that plan? A. Somewhere between—

Q. Has that gone up, too? A. I was going to say it was either in my office or the city engineer's office, I don't know which.

Q. Did you make your estimate for that brick from that plan? A. No, sir.

Q. Who made that plan? A. W. J. Howes, architect.

Q. That has never been shown here in the case? A. No, sir.

Q. Never has been here? A. No, sir.

Mr. MATTHEWS. Do you want it?

Q. Did you use the exact dimensions upon the Company's plan in obtaining the amount of brick in holder No. 3, or did you make modifications of your own? A. I don't remember.

Q. Whether or not you made modifications in arriving at this number of brick for holder No. 3 you don't know? A. Modifications in what?

Q. In dimensions. A. I don't believe I did any such thing. That assumes that I—

Q. I understood you to say you didn't know a minute ago, and I am giving you this opportunity. Did you take the exact dimensions upon the Company's plan of the No. 3 holder by which you arrived at your estimate of 998,000 brick? A. I believe I did.

Q. You don't know whether you did or not? A. Well, this is a couple of years ago, it has passed out of my remembrance.

Q. Very well. What other plans did Howes draw for the city? A. None that I know of.

Q. With reference to the litigation here involved? A. None that I know of except the plan of the—

Q. No. 3 holder? A. No. 3 holder.

Q. In your exhauster and purifying room you have 275,000 brick. How did you arrive at that number, from the Company's plan or the city's? A. That I can't tell, because I have used both at different times.

Q. Can you give me any of the details that go to make up that estimate of 275,000 brick? A. No, sir.

The CHAIRMAN. I understood, perhaps I am wrong, that in all these particulars of that kind he cannot give details, or he don't know which plan he worked from.

Mr. BROOKS. It may be your Honor so understood. He has not said so yet.

The CHAIRMAN. I so understood him.

Mr. BROOKS. He has said it with reference to the various items.

The CHAIRMAN. Well, generally, hasn't he said it?

Mr. BROOKS. Not to my memory. Perhaps he has. I am going to get that now.

Q. Have you any of the details that go to make up any of the estimates that you have introduced in this case? A. I told you yesterday that all those details were figured out on the plan—

Q. Well, answer my question.

The CHAIRMAN. He is answering it.

Mr. BROOKS. Cannot this question be answered by yes or no?

A. Well, no.

Q. Then if I ask you with reference to the various estimates you have made on this gas plant you cannot tell me whether your estimates came from the so-called Ellsworth plans or from the Company's plans? A. No, sir, I cannot, because I have used both.

Q. Did you make an estimate from both plans of these various buildings and excavations that I have called your attention to? A. You mean a complete estimate from both plans, making two estimates?

Q. Yes, sir. A. No, sir.

Q. Did you make two estimates from the two plans? A. No, sir.

Q. Did you take the two plans and strike an average? A. No, sir.

Q. Then pray tell me why you took one plan for one thing and another plan for another? A. Because I believe the two plans are identically the same.

Q. Then why didn't you use one instead of two? A. Because at the time I used one plan the other wasn't present.

Q. I know; but if they were identically the same why didn't you keep on with the Ellsworth plan? A. For the very reason it wasn't where I was doing the figuring. My figuring has been done off and on for about two years, I should judge, and I have used whichever plan was convenient.

Q. Now you say the two plans in your opinion are identical? A. I say they are supposed to be because they were taken from actual measurements.

Q. I understood you to say at some time during this hearing that you had never compared these two plans. A. I say so now.

Q. Then whether or not they are identical you don't know? A. Only they were taken from the same buildings, and measurements made, and they ought to be identical.

Q. Do you say that the foundations in the two plans are identical? A. I do not.

Q. Do you know whether they are or not? A. I say I don't know.

Q. Don't you know that the foundations in the Ellsworth plans are less? A. I do not.

Q. Will you look at the schedule for the steam engine room of the gas plant? A. Yes, sir.

Q. What, if anything, do you allow for puddling there?

Mr. MATTHEWS. What is that—foundations of the steam engine?

Mr. BROOKS. Yes.

Mr. MATTHEWS. In the gas works—the water gas plant?

Mr. BROOKS. Yes.

A. I allow none—nothing.

Q. In your estimate what do you allow for the puddling and concrete of the coal shed? A. I allow nothing.

Q. What, if anything, do you allow for the back-filling of the store shed No. 1? A. I allow nothing for back-filling.

Q. Why do you allow 45 cents per cubic yard for the concrete of the store shed and 60 cents per yard for the concrete of the office building? What occasions that difference? A. I believe the concrete of the office building is better than the other—than in the store shed.

Q. Do you say that that is a fact? A. That is my opinion of it.

Q. Is that the opinion that you form now or that you formed then? A. It was my opinion at the time I formed the values.

Q. What was the difference? In what did it consist? A. In dollars and cents?

Q. No, what was the difference in the appearance, in the make of it? A. I don't recall now just what the difference was.

Q. Very well. What did you allow for the flaggers in the five tanks? A. For flaggers I have no allowance.

Q. Is there any reason that you can assign for the difference in your allowance for the puddling of these various structures—the cost of the puddling? A. I don't know as I quite get the sense of your question.

Q. Why in your estimate have you allowed in some instances

40 cents for puddling and in other instances 60 cents for puddling? How was that conclusion arrived at? By what process?

A. There must have been some reason, but I don't recall what it is now.

Q. Very well, I will leave it. Why didn't you, in the case of the five tanks, add your 10 per cent. for contractor's profit? A. I think that is a mistake, and it should be added.

By Mr. GOULDING.

Q. How much would it amount to? A. \$331.17.

Q. I find in your evidence of yesterday this answer with reference to those walls on each side of that penstock in the passageway between the wheel house and the dynamo building: "The brick that runs down on each side of the penstock I considered to be put there for the purposes of protecting that penstock." Now, I understand you to say that you assume that the penstock was built first; do you? A. I believe I assume that, yes, sir. As a matter of fact, I do not know which was.

Q. Now assume that the penstock was built first and that these walls were built as shown on the plans, that is, there are two walls that are parallel with the penstock and arch over; the penstock is built first and the tunnel is built last, and on the top of those walls or over those walls is a bearing for the shaft. Now will you tell the Commission in what way the walls protect the penstock and what you mean by saying that you considered that they were put there for the purpose of protecting the penstock? Do you mean anything else except that if the tunnel had been built so as to rest on the penstock itself it would have been likely to destroy it? Do you mean anything else except that?

Mr. MATTHEWS. It is a long question.

A. There are six or seven questions in there.

Q. There is only one question, sir,—begging your pardon,—if you have intelligence enough to understand it. A. Well, if you will let me have the plan I think—I will try and answer you. I believe a tunnel can be put in there without the extra brick below the level of the flaggers.

Q. You believe it can be put in there; that is your answer to the question what you mean by saying it protects the tunnel?

A. Was that the question?

Q. Is that your answer, or don't you understand the question?

A. I understand the question to be as you put it.

Q. I ask you whether you mean anything more than that it protects the penstock in the sense that if you put the tunnel directly onto the penstock it would be likely to destroy it? A. I do not think that protects the tunnel.

Q. It protects the penstock? A. I think it is mutual protection.

Q. Is it not simply a method of constructing that tunnel over a penstock which was found there, if you assume that the penstock was built first? A. Yes, sir.

(Recess.)

AFTERNOON SESSION.

JOHN J. KIRKPATRICK, *resumed.**Cross-examination by Mr. Brooks, continued.*

Q. What rule or principle did you pursue in arriving at these various estimates of yours for the value of the labor on the lumber? A. Most of those were arrived at after consultation with Mr. Ranger.

Q. That is, you took Mr. Ranger's opinion? A. I think not entirely.

Q. Well, can you tell what fraction of his opinion you took, what fraction of yours? A. No, sir.

Q. I take it that you cannot go into the elements of your computations that led up to any estimate of yours for the labor? A. There was no fixed amount allowed per thousand for labor.

Q. No, and you cannot separate the lumber or the plank or timbers from the labor that you allowed; you lumped the labor and the lumber together? A. No, sir, I think the labor is separated in my schedule.

Q. Can you tell how much per thousand? A. I think we figured that out at different prices yesterday.

Q. What was the occasion of the difference? Have you that in mind? A. I don't recall what it was.

Mr. MATTHEWS. Mr. Brooks, this is in lumber, is it?

Mr. BROOKS. Yes.

Q. If the builder assumes all the risks would you say that an allowance for profit of 10 per cent. was a fair allowance? A. After he had determined all the quantities, yes, sir.

Q. What? A. After he had determined all the quantities.

Q. I guess perhaps we are at cross-purposes. You allow for contractor's profits 10 per cent.? A. Yes, sir.

Q. Do you think that would be a fair allowance if the contractor assumed all the risks? A. I do, yes, sir.

Q. You say that that is the usual allowance where the contractor assumes all risks? A. I have known of cases where—

Q. Just answer this question; if you want an opportunity to explain— A. I don't believe there is any usual fixed allowance in the city of Holyoke.

Q. Did I confine it to the city of Holyoke? A. I did.

Q. Now I want to ask you if that is not the usual percentage where the contractor assumes all the risks? A. No, sir, not in any specifications that I have ever drawn up.

Q. I am not asking about yours; I am asking what is usual in the building profession or trade. A. I believe that 10 per cent. profit is usual.

Q. What? A. As far as my experience goes.

Q. That is, you say that 10 per cent. is the usual allowance for contractor's profits where the contractor assumes all the risks? A. Yes, sir.

Q. Will you just turn for a moment to your plan of the electric light plant showing the railroad, or the railway track?

(The witness produced plan Exhibit 112.)

Q. This is the spur track? A. Yes, sir.

Q. Why did you stop it there? A. Because that was the end of it.

Q. Where is the coal bin? (The witness indicated.)

Q. There are other places in which the coal shed of the electric light plant could be placed, aren't there?

The CHAIRMAN. You are on the present or the—

Mr. BROOKS. The present electric light plant. Where is our sketch, that sketch that we introduced in evidence?

The WITNESS. Let me ask if you are confining yourself to the limits of the lot offered in the schedule?

Mr. BROOKS. Yes.

A. I don't believe there is any place within the lot offered by the schedule where a coal bin could be erected of the same size as the present coal bin.

Q. I ask you whether or not a coal bin of sufficient capacity, holding as much coal—whether different or same in form I do not care—could be erected upon that site in a place other than where this present coal bin seems to be located? A. Of the same capacity, I think so, yes, sir.

Mr. BROOKS. That is all.

Re-direct examination by Mr. MATTHEWS.

Q. Mr. Kirkpatrick, will you explain where upon the present site, meaning, I suppose, the site offered by the Company for the electric light plant, a coal bin of equal size and capacity could be erected? A. I believe there is ample room for the construction of a coal bin on the easterly side of the boiler house and the southerly side of the chimney, of about the same capacity as the present coal bin.

Q. Can you give the dimensions of the space that you would assign to such a coal bin, and also the dimensions of the present coal bin as you find them on the plan? A. The dimensions of the coal bin I would have to give from scale. This map is drawn to a scale of 40 feet to the inch. I should say it was an average of 25 feet in width by about 50 feet long.

Q. And the area of that coal bin would be what? A. 1250 square feet.

Q. Now where could you get a coal bin of equal area wholly within the lot offered by the Company? A. I believe a coal bin could be constructed there—

Mr. BROOKS. That is, south of the chimney?

A. Southerly of the chimney, yes, sir, and easterly of the boiler house, about 22 feet in width by approximately 50 feet in length, 1100 square feet. Those are subject to the accuracy of the scale.

Q. Is that as large a coal bin as you could possibly build on the land that the Company offers? A. That was figured on a rectangular coal bin. A few odd corners could be put in there behind the chimney and down in the acute angle of the lot.

Q. Would the coal bin, if built in the manner you suggest, occupy all the land easterly of the boiler house and southerly of the chimney? A. I believe it would.

Q. Would there be any room left for access to the door of the boiler house? A. Not from the rear, no, sir.

Q. Not from the south, you mean? A. Not from the east.

Q. Not from the east, I should say. A. Southeast.

Q. Would this coal bin, if constructed as you suggest, entirely upon the land offered by the Company, have any connection with the railroad tracks? A. I believe the railroad tracks would

have to be moved to accommodate it. I should judge the nearest point to the railroad would be about 15 feet. The farthest point would be 35 feet.

Q. And whose land is it that occupies this space of 15 or more feet between the coal bin as you suggest and the present location of the railway tracks? A. Land of the George R. Dickinson Paper Company, which is a division of the American Writing Paper Company.

Q. Will you refer to the plan which shows the foundations of the tunnel between the wheel house and the electric light station, which you omitted in your schedule. (Plan produced.) Now will you explain to the Commission the portion of the foundations of the tunnel as shown on this plan which you omitted from your schedule, and state the reasons why? First, please identify the plan. A. It is a plan of the wheel pit—the shafting.

Mr. GOULDING. I object that he stated it in his direct examination.

The CHAIRMAN. I understand so. If you don't understand it so we will hear it again.

Mr. MATTHEWS. Several questions have been asked on cross-examination which would leave the matter in some doubt, I think.

The CHAIRMAN. Very well, if you think so.

A. A longitudinal section through the tunnel. The portion omitted is what is below the flaggers of the tunnel, down to elevation 84.50 marked on this longitudinal section—a difference of about 8 feet.

By Mr. GOULDING.

Q. A portion of what? A. A portion of the brick wall.

By Mr. MATTHEWS.

Q. Meaning by that a portion of the foundations? A. Yes, sir.

Q. Did you take in the brick arch above the testing flume penstock, as shown on that plan, or did you omit that? A. I understand from my conversation with Mr. Sawin this noon that there is a difference of opinion as to the intention of that arch. That arch there is not, as I supposed, a saddle that extends over the testing flume. The arch shown there is merely the opening in the brick walls that run at right angles with the testing flume.

Q. The section, then, of the arch over the penstock which is shown on this plan does not indicate a cross-section of something which extends through? A. No, sir.

Mr. GOULDING. I did not hear an answer to your question whether he included it or not.

Q. Did you include it, Mr. Kirkpatrick? A. I did not.

By the CHAIRMAN.

Q. Do you add that to it now? What do you think of it? A. I believe, as I understand it now, there is a very small amount to include there.

By Mr. MATTHEWS.

Q. How much would you say that would be? A. About 763 brick.

Q. Now, will you state your reasons for omitting the portion of the foundation below the flaggers down to grade 84.50? A. I didn't believe at the time I figured this that—

Mr. BROOKS. He has been all into this.

The CHAIRMAN. I think so, Mr. Matthews.

Mr. MATTHEWS. If that was entirely explained on direct examination I do not care to go over the ground again with this witness.

The CHAIRMAN. I think the witness stated those. Mr. Green, I think, examined him on that matter. I think you will find it is already in.

Q. I will ask you this question, then, Mr. Kirkpatrick: Are those foundations that you omitted in your opinion necessary for the tunnel?

Mr. BROOKS. For the what?

Mr. MATTHEWS. Tunnel.

Q. Considered a part of the testing flume? A. No, sir.

Q. If the testing flume had not existed there when the tunnel was built, would it have been necessary, in your opinion, to have built the foundations of the tunnel so deep?

Mr. BROOKS. We object to it, may it please your Honors.

Mr. MATTHEWS. On the ground that he has already covered it?

Mr. BROOKS. On that ground, and on the ground that it is not competent anyway.

Mr. MATTHEWS. Well, if the latter ground is pressed I

should like to be heard on the subject. I don't remember that this particular question was put in direct examination.

Mr. BROOKS. I think it was.

Mr. MATTHEWS. Was it?

The CHAIRMAN. I don't remember whether the question has been asked, or anything like it. Let it go in. So far as the second objection is concerned, we do not think that is well taken. You can ask the question.

Mr. MATTHEWS. (To the stenographer.) Will you read the question over to him?

(The question, "If the testing flume had not existed there when the tunnel was built, would it have been necessary, in your opinion, to have built the foundations of the tunnel so deep?" was read by the stenographer.)

A. I consider the foundations of the tunnel to be 92.50 elevation. The work that I consider unnecessary, in answer to your question, would be what was between elevation 92.50 and 84.50.

Q. What is the elevation of the flaggers? A. Those are the elevations I have given.

Q. 92.50? A. 92.50 and 84.50.

Q. What is the elevation of the line that is marked "Flaggers" on the plan which you are looking at? A. Well, the flaggers of the tunnel are marked "Elevation, 92.50."

Q. Yes. A. The flaggers of the wall that run down beside the testing flume are marked "Elevation, 84.50."

Q. You said in reply to one of Mr. Brooks' questions that you took Mr. Ranger's figures, which were between the figures that two other gentlemen gave you, as the cost of brickwork? Was it not, Mr. Brooks?

Mr. BROOKS. Yes.

A. Yes, sir.

Q. And you used this expression, "They gave me a lump sum." Did you mean that they gave you a lump figure in dollars and cents, or a lump sum per thousand? A. A lump sum per thousand.

Q. You were asked, Mr. Kirkpatrick, about the manner in which you measured your brick in the wall with reference to the number of brick per cubic foot and to the allowance for open-

ings, and you stated the manner in which you made that estimate. As I think, you took 24 brick to the cubic foot, deducting the openings in full? A. Yes, sir; that is correct.

Q. Is there any general custom prevailing in the city of Holyoke in that particular? A. That is the exact custom in the city of Holyoke.

Q. I will ask you, Mr. Kirkpatrick, if you know the length of the sewer that was shown on the schedule of sewers produced from the city engineer's report yesterday? A. The length of the sewers?

Q. The total length of the sewer which was referred to as being described in that schedule yesterday? A. No, sir; I don't know as I can recall it now.

Mr. MATTHEWS. If that exhibit cannot be found now, I should like to defer questioning about the sewer until that exhibit appears.

Mr. BROOKS. Certainly.

Mr. MATTHEWS. It was simply an excerpt from the official report, was it not?

Mr. BROOKS. Yes.

Q. Mr. Kirkpatrick, you were asked yesterday why you did not figure in your schedule engineering and superintendence of 5 per cent., why you did not make any allowance for interest during construction, for insurance and for contingencies, and you said something about other allowances. Will you explain what you had in mind at that time? A. Yes, sir. My profit of 10 per cent. covers the total estimated cost of the buildings. It is a custom, in Holyoke at least, when a contractor is figuring on a building to receive his figures from the brick mason, the stone mason and the excavator, and submit those prices with his estimate as he receives them, adding his profit only to his own portion of the work, that is, the lumber work and whatever incidentals that may go with it. My 10 per cent. covers all these items, as I did not believe it necessary to make a special item of 5 per cent. for engineering services.

Mr. BROOKS. (To the stenographer.) Read to me that answer.

(The answer was read by the stenographer.)

Q. Did you explain, Mr. Kirkpatrick, where or how you got

your figures for the excavation generally? A. From the plans. I think I did, yes, sir.

Q. I notice that you were asked how much digging a laborer at a dollar and a half a day could manage, and you stated, as I remember it, that an average laborer would excavate six cubic yards a day. Is there any correction that you wish to make in that statement? A. My figures for that excavating were taken from Mr. O'Connell, and he did all the detail of it. What he allowed I cannot say that I know of. As for my statement of yesterday, I think I am rather low on my estimate.

Mr. BROOKS. Let me have that answer read; I could not hear it.

The CHAIRMAN. We could not either.

(The answer was read by the stenographer.)

Q. Estimate of what? A. Labor; the work that a laborer would do.

Q. In a day? A. Yes, sir.

Q. Well, the figure that you used for your schedule I understand you took from Mr. O'Connell? A. I did, yes, sir.

Q. And that figure was so much a yard, was it not? A. Yes, sir.

Q. Mr. Kirkpatrick, when did you make your estimate and schedules?

Mr. BROOKS. Well, that has already been gone into.

Mr. MATTHEWS. By date?

The CHAIRMAN. I don't remember as to the date, Mr. Brooks. Let us have that.

A. I don't believe that I could set a date.

Q. Well, as nearly as you can? Were these estimates prepared by you within the past year, or at some prior time? A. A portion of these estimates were prepared by me two years ago, and the last figuring I did upon them was within a month.

Q. I understood you to say that the data which you used had been largely lost? A. Yes, sir.

Q. Will you explain that to the Commission?

Mr. BROOKS. Well, I submit that has been explained. He explained it twice, on the direct and on the cross.

Mr. MATTHEWS. Not on direct examination, I think, Mr. Brooks.

The CHAIRMAN. Well, he may answer it.

Mr. BROOKS. I withdraw my objection.

A. A portion of my work was done while I was in the city engineer's office. A portion of it was done while I had an office of my own in the Senior Building in Holyoke. A portion of it was done in the office that I now occupy in partnership with Mr. Ellsworth; so that I have moved twice since I commenced work upon those schedules, and all of the work, as I remember it, was done on pads—

By the CHAIRMAN.

Q. Done how? A. On pads.

Q. Paper pads? A. Paper pads, and the totals only preserved. Some of them might have been kept for quite a long while.

By Mr. MATTHEWS.

Q. Would it be a difficult matter for you, Mr. Kirkpatrick, to figure out again from your schedule the data which you used in reference to the particular points to which Mr. Brooks called your attention in cross-examination? A. It would not be a difficult matter. It would be a matter of several hours.

Q. You could do it, could you, in several hours' time, with reference to the particular points which Mr. Brooks asked about? A. I could certainly try. I believe I could do it.

Mr. MATTHEWS. I do not see, Mr. Chairman, how I can go on with this witness any further until we have had an opportunity to do some figuring for the purpose of explaining the gaps in his data which Mr. Brooks called attention to.

The CHAIRMAN. Can you call another witness?

Mr. GOULDING. If he proposes to figure back from his conclusions to his data, that would be wholly immaterial, there would be nothing to anchor to. It does not seem to me the figuring would be of any importance. If you have not got the original data you haven't got anything that is material.

The CHAIRMAN. When we reach that point we will look at it. Mr. Matthews wants to withdraw the witness, and when he gets on the stand again if he produces anything of that kind we will have to deal with it then.

Mr. GOULDING. I thought the question Brother Matthews last asked him was whether from his schedule he could figure back to his data.

Mr. MATTHEWS. Well, he could do it either way, I should suppose.

Mr. GOULDING. If he hasn't got his data, and remembers what they were, he could give the contents of the paper.

The CHAIRMAN. He cannot do it from memory, I suppose. He wouldn't undertake that, would he?

Mr. MATTHEWS. I don't want the Court to understand that I would confine the process which I have asked the witness to adopt simply to figuring back. I want him, if he can, to furnish the data which Mr. Brooks asked for in some way. He cannot do it off-hand, of course, on the spur of the moment on the witness stand, but thinks he can do it, as I understand him, with three or four hours' work, and I should like to have him have the opportunity.

Mr. BROOKS. It is calling him again as a new witness; that is about the size of it.

Mr. MATTHEWS. Well, I would like to have his examination suspended.

Mr. BROOKS. He has now had three or four nights in which to arrive at his data, if he can arrive at it.

Mr. MATTHEWS. I think that that statement, perhaps, is *prima facie* fair—

The CHAIRMAN. He states upon cross-examination, Mr. Matthews, that he did all these things on pads, and he has produced the result. How much of an advantage is it going to be to you to have him turn up with the figures?

Mr. MATTHEWS. None, if they had not been inquired into in cross-examination.

The CHAIRMAN. He says he did this on pads or memoranda which he destroyed.

Mr. MATTHEWS. But he can reproduce it today, or I should suppose he could. I should like to have him try.

The CHAIRMAN. Well, you can suspend the witness, anyway. We will pass on that matter when we have to pass on it.

Mr. COTTER. I should like to ask one question of the witness.

By Mr. COTTER.

Q. The estimates described in Exhibits 108 and 109, which we hold before us, are made as of what date, Mr. Kirkpatrick? A. Of 1898; January of 1898.

Mr. MATTHEWS. Mr. Kirkpatrick, you can step down now.

Mr. BROOKS. I don't know but I could spend five minutes in asking what occurs to me now.

Mr. MATTHEWS. These questions I ask him may open up a large field for you, but go ahead, it is immaterial.

Re-cross examination by Mr. BROOKS.

Q. What did you do with the pads on which you figured a month ago? Have they gone up the spout? A. Or in the sewer. They have gone somewhere.

The CHAIRMAN. Gentlemen, if you have the entire case reported to the full Court they won't understand that question and answer. We do.

Mr. BROOKS. Well, I don't think there will be any doubt about it.

The CHAIRMAN. Go ahead.

Q. You say, as I understand you, that you figured on pads, threw them away, and then you moved from one place to another. How does the moving affect the loss of the pads? A. It has affected it so I haven't been able to find more than half my documents since.

Q. If the moment when you figured on them you threw them away, how does your moving cut any factor in their loss? A. I spoke of throwing away the last few, I believe.

Q. No, I am talking generally. You told Mr. Matthews you figured on pads and destroyed the pads, and then you had moved from place to place two or three times, and the result was you couldn't find them.

Mr. MATTHEWS. No, he didn't say that.

Mr. BROOKS. Then I misunderstood him.

Q. Which was it that was the cause of the loss of these pads or their non-presence here, your destruction of them or your moving? A. My moving was the cause of the loss of over half of my documents.

Q. Did you lose your note books? A. Yes, sir, I did; I lost several note books.

Q. That appertained to this case? A. I believe there were notes in the note books that did pertain to this case.

Q. Did you preserve the instruments of your profession? A. I was lucky in that respect.

Q. Will you tell me the whole number of brick in that tunnel? A. I believe I said this morning that perhaps the total amount that was included in Mr. Sawin's estimate was correct, if the brick work below the level of the tunnel should be included.

Q. I am asking you now what is the total amount of brick in the tunnel? A. I don't know.

Q. As you figure it? A. I don't know.

Q. You can't tell anything about it? A. Not any.

Q. You can't approximate it? A. I can figure it soon.

Q. Well, I don't want to take too long.

Mr. MATTHEWS. We will put that down with the rest and ask him to figure that.

Q. What does this 700 brick you spoke of apply to? Where did you pick those 700 brick out? A. Mr. Matthews asked me to figure in a portion of the arch that is above the floor of the tunnel.

Mr. MATTHEWS. I asked you if you had figured it.

Q. So how much of the arch do you figure in when you come to the conclusion of 700 brick? A. Three pieces 8 feet long, 1 foot high, 16 inches thick.

Q. What part of the arch is that? A. That part of it.

Q. I understand; but how much of the whole arch does that constitute? A. It is the part of it above the level of the tunnel floor.

Q. Well, what proportion of the arch? That is what I am after. A. I should say about half of it, roughly.

Q. Then, in this tunnel you have left out in your consideration the vertical walls and more than half of the roof, haven't you—or the arch? A. I have left out the vertical walls and all that part of the arch that I thought had no connection with this tunnel. That is the whole of the arch.

Q. What? A. I left out the whole of the arch.

Q. You left out the entire arch and both vertical walls? A. My understanding of that arch at that time—

Q. I don't care about your understanding. In your present figures do you include any part of the arch or any part of the vertical walls of that tunnel? A. In these figures in my schedule?

Q. Yes, or any reformation that you have made. A. I have made none.

Q. Well, if there is no reform, you have not included either the vertical walls or any part of the arch, have you, in any part of your figures? A. That are submitted in my estimate? No, sir. Your question is not quite clear to me.

Q. What did you think I was asking you about when I asked you if you included either the vertical walls or any part of the arch? What did you think I alluded to? A. I didn't know whether you alluded to the arch as I originally understood it or as I understand it now.

Q. It is the same arch, isn't it?

The CHAIRMAN. Not the same understanding.

Q. Well, the same foundation. A. The same foundation, the same piers, the same walls.

Q. I understood you to say yesterday, and do I understand you now, that you say the portion of the tunnel omitted in your calculation is below the flaggers? A. Below the flaggers of the tunnel.

Q. You said yesterday it was what was below the floor, didn't you? A. If I can look at the plan I will tell you now.

Q. Well, I will read this to you. You said yesterday, according to the stenographic minutes, "I can tell you all that is below the level of the tunnel floor and the saddle over the penstock I didn't consider the city of Holyoke should pay for." Now, which are you going to have it, below the floor or below the flaggers? A. If I said below the floor I made a mistake. I should have said below the flaggers. There is a difference of about two feet there.

Q. And there would be quite a little difference in the result of calculation, wouldn't there? A. I believe my estimate included down to those figures.

Q. You think it did? A. I think so.

Q. There is nothing that would give any information on that point here, is there? A. No, sir.

Q. Well, now, let me see. Do you say that it is the custom in the city of Holyoke if a contractor takes a job and he lets out the brick work and the iron work and everything, for instance, but the wood work, that he gets no profit except on the wood work?

Is that what I understand you to say the custom is of contractors and builders in the city of Holyoke? A. Yes, sir.

Q. So if a man takes a contract for a brick building and there is a good deal of iron as well as of brick, very little wood work, he gets no profit except what little there may be in the wood work? A. He has the profit of his own material only.

Q. He gets no profit except what there is in the wood work? A. No, sir, the sub-contractor gets that.

Q. He gets but the 10 per cent., then? A. He does not always get that.

Q. Well, if he takes a \$100,000 job and the whole wood work amounts to \$1,000 he gets \$100 profit? A. I suppose I might say that such a circumstance would alter the case. I said that was the usual custom.

Q. You say it is the usual custom? A. Yes, sir.

Q. It altogether depends on circumstances, doesn't it? A. Yes, sir.

Q. And then you say, even in that consideration, with a \$100,000 job and a \$100 profit out of it, he assumes all risks? A. I answer that by saying that that is a case of another color entirely.

Q. The rule differs with the different shades, doesn't it? A. It depends entirely on the circumstances.

Q. So there isn't any hard and fast rule, is there? A. That is the hard and fast rule.

Q. The hard and fast rule is, it depends on the circumstances? Mr. GOULDING. Hard on the contractor.

The WITNESS. Fast on the builder, too. Yes, sir.

Q. This rule depends altogether on the circumstances of each individual case? A. Yes, sir, but you asked me about the general case.

The CHAIRMAN. That is to say, lawyers make more money in Holyoke than contractors?

The WITNESS. They do anywhere.

Mr. BROOKS. Well, there isn't any doubt about that.

Mr. COTTER. Mr. Witness, you are under oath.

Mr. BROOKS. But it is a most remarkable circumstance that every lawyer in the city of Holyoke is in poverty and every contractor is a millionaire. Well, I don't believe I have anything more to ask him now.

Re-direct examination by Mr. MATTHEWS.

Q. One question, Mr. Kirkpatrick, before you step down. You said you did not go for your foundations as deeply as the Company's plans show for the pipe shop, the meter house, the lime room building, the water gas meter building, the exhauster, condenser and purifying building, but that otherwise you followed the Company's plans. Will you state why you drew that distinction?

Mr. GOULDING. Well, that he did state.

Mr. MATTHEWS. I thought not. I am very certain that he did not state it, Mr. Goulding. I do not want to contradict you, but I do not think he stated the reasons.

Mr. GOULDING. He made this statement, may it please your Honor, that there was no evidence in his mind whether the foundations actually went down as shown on the plan, and in any case he took the depth that he thought was suitable for such buildings. That is what he said in substance.

The WITNESS. I believe that is true.

Mr. MATTHEWS. I think that was in direct examination.

Mr. GOULDING. Direct examination.

Mr. MATTHEWS. I think I am wrong, Mr. Goulding. I will leave it that way.

Q. Did you understand that the foundations shown upon the Company's plans were put there by reason of actual measurements down into the ground?

Mr. BROOKS. Wait a minute; I object to that, what his understanding was.

The CHAIRMAN. I should like to know what the witness thinks about that. What was your understanding, Mr. Kirkpatrick? A. I think there is a note on there that would probably explain that.

Q. Will you call the attention of the Commission to that note? A. On the plan of the water gas meter room in the Company's plan of the gas works I find a note, "Foundation wall supposed to start on rock."

By Mr. GOULDING.

Q. Start on rock? A. Yes, sir. I believe there is something

like that in two or three other places. The same is true of the lime room, "Foundation wall supposed to start on rock."

Mr. GOULDING. What has that to do with the depth?

Mr. MATTHEWS. Well, that is all, Mr. Kirkpatrick.

Re-cross examination by Mr. BROOKS.

Q. When you take the figure you come to a conclusion in your own mind where the rock is located, do you? A. This does not say it starts on the rock; it says "supposed to."

Q. When you figure, do you figure on that supposition? A. No, sir; I figured on what I thought it ought to be, without reference to rock.

Q. The mere fact that it is supposed to start on rock does not say anything with reference to distance, does it? A. No, sir.

Q. The city made a tracing, didn't they?

Mr. MATTHEWS. Of what?

The WITNESS. Of what?

Q. Of this gas plant? A. No, sir.

Q. They made a set of plans of this gas plant? A. That is not the same thing.

Q. Did they make a set of plans of this gas plant? A. Yes, sir.

Q. Have you seen a set of plans made by the city that showed rock? A. I don't know whether Mr. Ellsworth's does or not, now.

Q. Will you look and see? A. Yes, sir.

Q. Are those the only plans that were made by the city of this gas plant? A. Yes, sir.

Q. Of these buildings? A. Yes, sir.

Q. Or any of them? A. Oh, no; there are others of the electric light station—

Q. Any of the buildings of the gas plant? A. There is another plan we have of the Ward 3 holder.

Q. With that exception, is there any other plan that you have seen made by or on behalf of the city, of the buildings, aside from the Ellsworth plan and the city plan? A. No, sir.

Mr. BROOKS. That is all.

The CHAIRMAN. Did you say that was all you cared to ask?

Mr. BROOKS. That was all I cared to inquire about that.

The WITNESS. I thought you asked me to look up something?

Mr. BROOKS. Well, so I did. (Ellsworth plans produced.)

Q. Is there any rock shown on this Ellsworth plan of the gas plant? A. Yes, sir.

Q. Whereabouts? A. Under the section of the gas holder, I should judge, No. 2.

Q. Well, that shows rock? A. Yes, sir.

Q. Does that show how deep down? A. It shows it about 18 feet below the grade line.

Q. Is that the depth shown upon the plans of the city? A. I don't know.

Q. Well, haven't you kept that in mind sufficiently so that you can tell me? A. No.

Q. Look at the purifying house; see if there is any rock shown up there. Look over here. A. There is under the section marked "Section on line C-D."

Q. Any other place where the rock shows up? A. On the section of line marked "A-B."

Q. And these are both shown in the Ellsworth plan? A. These are the Ellsworth plans.

Q. These are shown upon the Ellsworth plan? A. Yes, sir.

Q. What is that? A. Pipe shop.

Q. Do you find any rock under the foundation of pipe shop? A. Yes, sir.

Q. Now, can you tell me whether you figured the foundations on the Ellsworth or upon the Company's plans? A. I cannot.

Mr. BROOKS, That is all.

By Mr. MATTHEWS.

Q. Mr. Kirkpatrick, are you acquainted with any accurate measurements indicating a greater depth to the foundation of the gas buildings than you have assumed?

Mr. BROOKS. I submit that has all been gone into.

The CHAIRMAN. Let us find out. What do you say, Mr. Kirkpatrick? A. I do not believe I am acquainted with any such, only what I find on the plans.

By Mr. MATTHEWS.

Q. On these plans? A. On both the plans.

The CHAIRMAN. Is that all?

Mr. MATTHEWS. That is all, with the exception of the calculations which the witness is to make.

I would like to have this Ellsworth set of plans marked for identification.

The set of plans entitled "Holyoke Gas Works. General plan. Scale, 1-8 in. = 1 ft. Measured and drawn by E. A. Ellsworth, C. E., under direction of J. J. Kirkpatrick, City Engineer," was marked for identification "Identified Nov. 22, 1900, F. H. B."

(The Chairman asked counsel how the valuations of buildings testified to by Mr. Kirkpatrick compared with those given by witnesses for the respondent. Counsel for both parties stated that they would furnish the information thereafter.)

(Adjourned to Friday, Nov. 23, at 10 A.M.)

THIRTY-NINTH HEARING.

BOSTON, Friday, Nov. 23, 1900.

The Commission met in the Court House at 10 A.M.

Mr. MATTHEWS. If your Honors please, I might occupy a moment in answering the inquiry addressed by the Commission yesterday in regard to the difference between the Company's valuation of the buildings and Mr. Kirkpatrick's. As nearly as I can figure it out, it is this. I will say, however, before stating the figures that it is not an easy matter to pick the buildings out from the schedules of the several witnesses, because the schedules have not been made up on identical lines. Some have included some things as part of the buildings that others have included as part of the machinery and so on. The best we have been able to make out of it is this:

The Company's experts on the gas plant, Messrs. Randolph, Prichard, Nettleton and Fowler, give an average valuation for the buildings of \$75,737, and Mr. Kirkpatrick's is \$54,279. I should say that the estimates of the four witnesses of the Company, which I have taken and averaged, are without any allowance for the general charges of installation so-called, that is, for interest during construction, contingencies and engineering expenses. Where they have included these items in their schedules in the first instance, I have deducted them for the purpose of comparing their figures with Mr. Kirkpatrick's, who made no account of general installation charges.

On the electrical plant the average valuations of Messrs. Prichard, Foster, Robb, Whitham, Newcomb, Anderson and Green, figured out in the same way, I make to be \$114,579. That is the average, without making any account of installation charges. The corresponding figures of Mr. Kirkpatrick's estimate are \$75,655.

The CHAIRMAN. So there is a difference of \$50,000 or \$60,000.

Mr. MATTHEWS. A difference all told—

The CHAIRMAN. In the 6th volume there is a Mr. Landers, who valued the buildings alone for the petitioner. I saw yesterday that he put it at about what Mr. Kirkpatrick did. The difference there is about \$8,000 between the two.

Mr. BROOKS. Of course, there are one or two that Mr. Matthews did not include—nor did he include Mr. Allen.

Mr. MATTHEWS. No. I took the gas and electric men simply. The figures I have given include simply the figures made by the gas and electrical experts. The totals of the two plants make \$190,316 for the average of the Company's witnesses, and \$129,834 for Mr. Kirkpatrick, a difference of \$60,482.

Mr. BROOKS. You did not include Mr. Sherman, either.

Mr. MATTHEWS. I intended to include Mr. Sherman, but I couldn't make it out. He ought to have been included; but his machinery and buildings are all mixed up.

Mr. BROOKS. Did you include Mr. Fowler?

Mr. MATTHEWS. Yes. Mr. Sherman has his machinery and buildings so mixed up I couldn't disentangle it, and I think he has left out something besides, by accident.

Mr. BROOKS. We have a summary of values placed upon the gas plant by the various witnesses on the gas plant. I do not know whether your Honors care to see it.

The CHAIRMAN. Yes; read it.

Counsel for the Company read the summary of values referred to, as follows:—

**SUMMARY OF VALUES PLACED UPON GAS PLANT OWNED BY THE HOLYOKE WATER POWER COMPANY
OF HOLYOKE, MASS., BY THE WITNESSES OF THE COMPANY.**

NAMES.	Buildings in- cluding gas- holders.	Machinery.	Tar, oil, and ammonia tanks.	Piping.	Meters.	Real estate.	Materials, furniture, and tools.	Value of $\frac{1}{4}$ mill-power of water.	Total.
William W. Randolph	\$95,470.00	\$58,600.00	\$6,490.00	\$109,177.02	\$20,337.10	\$50,153.40	—	—	\$340,227.52
Charles F. Prichard	95,202.00	57,030.00	7,064.00	93,901.00	26,074.00	50,153.00	\$3,958.00	—	333,382.00
Charles H. Nettleton	96,824.05	62,182.96	5,178.79	97,664.55	21,405.35	50,153.40	4,877.53	—	338,286.63
F. C. Sherman	112,686.04	63,799.84	8,391.30	80,098.24	18,769.62	51,106.70	1,613.78	—	334,465.52
Samuel J. Fowler	92,032.48	55,026.00	6,531.00	97,223.00	26,134.00	50,153.00	2,040.00	—	324,297.00
Charles A. Allen	115,569.54	60,785.09	7,167.24	99,107.18	21,117.00	50,702.32	*35,348.61	\$18,750.00	408,547.08
Frank A. Rivers	111,147.54								
Dennis J. Landers	99,178.98								

* This item includes interest during construction and engineering contingencies.

Mr. MATTHEWS. Those figures of yours include the holders in the buildings?

Mr. BROOKS. They do, except that Mr. Rivers and Mr. Landers do not include holders.

Mr. MATTHEWS. But, on the other hand, either Rivers or Landers included the embankment wall, which the others omitted.

Mr. BROOKS. I think you are right about that.

Mr. MATTHEWS. Mr. Chase, the witness we expected to put on today, is having his schedule, which consists largely of computations, put in printed form for submission, it being about as easy to do that as to make typewritten copies of it. He had most of it ready last night, and it has gone to the printer and is now there. Two or three of his papers are not yet finished. If it were simply for those missing tables we could proceed; but the body of his schedule is in the printer's hands. We adopted that course because we thought it would be more intelligible for all parties to have these calculations, some of which are quite complicated, put in print, so that the Commissioners and counsel on the other side could examine them with greater facility. They will be ready, I understand, today or tomorrow, but they are not ready now. Under those circumstances we hardly see how we can go on with Mr. Chase.

The CHAIRMAN. Why can't you put your accountant on now?

Mr. MATTHEWS. He has not got his material with him. It has gone to the printer.

The CHAIRMAN. Oh, Mr. Chase is your accountant.

Mr. MATTHEWS. Yes.

The CHAIRMAN. Then your material is all exhausted?

Mr. MATTHEWS. Our witnesses are absent, unfortunately. We shall be all right next week, and can go on without interruption then.

The CHAIRMAN. You cannot give us anything to do at all?

Mr. GREEN. No, sir, there is nobody ready. We have one witness, but he assumes something which has to be proven in advance. It would be putting the cart before the horse.

Mr. BROOKS. You have got to spend some time in qualifying him. Could you do that now?

Mr. MATTHEWS. Do you want me to start in to qualify him, to save time, and then have it printed with his testimony when it goes in? Unfortunately I haven't got a memorandum of his qualifications; I should like to have that with me before I begin.

The CHAIRMAN. If we are going to have any bother about it perhaps it is not worth while.

(Adjourned to Monday, Nov. 26, 1900, at 10 A.M.)

FORTIETH HEARING.

BOSTON, Monday, Nov. 26, 1900.

The Commission met at the Court House at 10 A.M.

JOHN J. KIRKPATRICK, *resumed*.

Re-direct examination by Mr. MATTHEWS, continued.

Q. Mr. Kirkpatrick, you were asked at a former hearing by Mr. Brooks if you could give him certain data that you used, or tell him how you figured out certain results. You told him you could not do it then but you could if you had some time. I will ask you whether you have endeavored to prepare yourself to answer those questions? A. Yes, sir.

Q. Will you tell the Commission, then, the process that you used to get at the various items or quantities that Mr. Brooks inquired about? A. For gasometer number 1 I figure a diameter of 70 feet, with an area of 3848 feet, circumference 220 feet. The excavation, in a circle 70 feet in diameter and 20 feet high, or deep, is 76,960 cubic feet. I allowed for the slope 17,820 cubic feet. That makes a total of 94,780 cubic feet, which divided by 27 is 3510 cubic yards. The slope is 6 inches to the foot.

Q. That is gasometer No. 1, is it? A. Yes, sir.

By Mr. BROOKS.

Q. What is the amount of that slope? A. 6 inches to the foot.

By Mr. MATTHEWS.

Q. Now will you take up gasometer No. 2? A. Gasometer No. 2, 70 feet in diameter, the same area and circumference, 16 1-2 feet in depth, total 2765 cubic yards. That differs from the original somewhat, I don't remember what it is now. The holder No. 3, 96 feet in diameter at the bottom, an area of 7238 feet, 20 feet in height, a slope of 6 inches per foot. The original

estimate of that was 6265, and these figures make 6387, a difference of about 122 cubic yards. In addition to that there is the gate house and the slope for the same. Does that answer that question?

Q. Did you state about gasometer No. 3, the Bridge street gasometer? A. Yes, sir.

Q. Now will you state how you estimated the excavations for the other buildings at the gas works? A. I didn't go into those since I went into the originals. I wasn't asked to.

Q. You didn't do that? A. No, sir.

Q. Can you state what allowance you made for the coffer dam at the tailrace, or the manner in which you allowed for excavation, or the brick laying, in connection with the water plant? A. I haven't gone into that since Friday. That wasn't one of the questions that I understood was put to me.

Q. What else have you there, Mr. Kirkpatrick? Perhaps that is the best way to get at it. A. The difference in price of the concrete floor in the office and the concrete floor of the store shed is caused by the difference in the concrete. The office basement floor is cement concrete and the shed is coal tar concrete. I didn't allow for puddling under the water gas plant buildings, although there is some shown on the plans. There are flaggers underneath the walls, and there is no puddling shown underneath the machinery. So I haven't allowed that. The 3-inch hemlock plank for the headgate—

Q. Before you go into that, why didn't you allow for puddling in these items? A. I thought if it was unnecessary under the machinery it was unnecessary under the walls.

Q. Now, go on to the timber. A. The 3-inch hemlock plank for the headgate has been omitted from my schedule and should have been added to my estimate for the same. It figures 3300 feet at \$15, \$49.50. There should be added to my estimate of the wheel house six windows at \$5 each, \$30. I believe I was asked to figure the brick in the tunnels. I figure the total brick to be 73,872.

By the CHAIRMAN.

Q. The brick in what? A. The tunnels. The amount of brick in the tunnels without the walls that run down beside the testing flume penstock, 59,760.

By Mr. MATTHEWS.

Q. Is that the amount that you omitted as compared with the plans, or the amount that you took in? A. The amount that I omitted in the plans I figured to be about 14,000 brick.

Q. That is, that was for the foundations below the line that you thought necessary to go for them? A. Yes, sir.

Q. Have you got anything else, Mr. Kirkpatrick? A. Mr. Brooks asked me if I was positive I had figured in the foundation for the engine bed, and I have since figured that over and I believe that that is included. I figure the engine bed to be 140,000 brick, and the buildings 214,512, making a total of about 354,500 in the engine bed and the buildings of the steam engine room.

By Mr. GREEN.

Q. As I understand this, for my own elucidation, as your figures stood in your schedule you could not tell whether they included this engine bed or not? A. No, sir.

Q. But by figuring it you ascertained that it did; is that the meaning of that? A. Yes, sir.

By Mr. MATTHEWS.

Q. Is there anything further? A. That is all, I believe.

Q. Do you know what depth you assumed the excavation for the dynamo building and the piers? A. Yes, sir; the excavation of the dynamo building I figure 9 feet in depth.

Q. And for piers how much? A. That is the whole.

Q. Can you state how low you assumed the foundations for the Bridge street holder? A. The Bridge street holder—I believe I figured those from the plans.

Q. The Company's plans? A. Yes, sir.

Q. Have you explained the difference between the two prices you gave in your schedule for puddling, 40 cents in one case and 60 cents in the other?

Mr. BROOKS. That has all been gone into.

Mr. MATTHEWS. You have explained that, have you? I am reading from my memorandum, and the witness is reading from his, which may account for it.

Q. Have you prepared any estimate or schedule of the difference in quantities between those which you used and those indicated by Mr. Sawin? A. Yes, sir, but I haven't got it with me.

Q. Is it in town? A. Well, there is a lot of things down at the Adams House in my room. I think it may be down there.

Mr. MATTHEWS. I don't think of anything further, Mr. Brooks.

Re-cross examination by Mr. BROOKS.

Q. Have you the original memoranda that you spoke of the other day, with you? A. That I figured these quantities about? I said that memorandum was lost.

Q. Well, then, you simply figured back, didn't you? You took your total and figured back for the purpose of determining the various matters that you have been inquired about? A. That cannot be so, because the figures are not identically the same.

Q. Well, how did you find out the amount of slope that you were allowing for? A. I figure up the quantities now as I thought they ought to be and see how they come out.

Q. Well, that really means that you figured back, doesn't it, from the quantities that you specified in your schedule? A. There certainly was a comparison of quantities, yes, sir.

Q. And you took the quantity that you had in your schedule and you endeavored to figure back from that to obtain the slope, for instance, that you have allowed for; isn't that so? A. I don't think I could do that.

Q. I am asking you if you didn't do that? A. No.

Q. Substantially?

Mr. MATTHEWS. He says he did not, Mr. Brooks.

Mr. BROOKS. I understood him to say right the contrary.

The WITNESS. I said I compared the two figures.

Q. Well, didn't you take the figures that you had and then go to work and endeavor, by some process of figuring back, to determine the amount of slope that you thought you should allow for? A. No, sir; I began all over, and when I got through I compared them with the quantities that I had originally given.

Q. Well, now, you began all over again. What figures did you take, the figures of the plan, of the Company's plan? A. Yes, sir.

Q. Or did you assume things? A. I took the figures from the Company's plan.

Q. In every instance? A. I believe so, yes, sir.

Q. You said to Mr. Matthews that you assumed certain figures, as I understood you; that you did not take the Company's figures as shown by the plan? A. I didn't say any such thing.

Q. Did you get your slope from the plan? A. The slope is dependent upon the height of the excavating.

Q. You say it was a six-inch slope? A. Yes, sir.

Q. Is that a six-inch on each side? A. Yes, sir, per foot.

Q. Considering the character of the soil do you think that is a proper slope to allow? A. I do.

Q. What allowance did you make for water in the trenches? A. I made none whatever.

Q. Well, now, how did you determine the amount of foundations of the engine bed? A. From the plan. I have a duplicate of the plans that are here in court; I had them at my office and figured them Saturday.

Q. And you say now that you believe you included those in your original estimate? A. I do, yes, sir.

Q. You say that you assume 9 feet for the depth of excavation for the dynamo building? A. I say I figured it at 9 feet.

Q. Well, did you take that from the plan? A. I believe I took the average of what the plan showed.

Q. I don't quite understand that. A. Well, the depth of excavation at all different points is not the same; for instance, the excavation along near the westerly side of the building is considerably more than it is on the easterly side; the northerly side is a little more than the southerly side, and I took what I considered an average of the whole.

Q. Did you take into consideration the original surface of the site, or did you take the surface as you find it now? A. Take it as shown on the plan.

Q. Yes. Your figures for the depth of excavation are different from those you gave on Thursday, aren't they? A. The figures for the depth of excavation?

Q. Yes. A. You asked me on Thursday to figure up—

Q. No, I say the depth of excavation that you give today is a different depth than that which you gave Thursday, for the

holders, for instance? A. You asked me on Thursday—I was going to answer it—to figure up what the depth was shown on the plan. The depth shown on the plans is not the actual depth that those excavations were made.

Q. How do you know? A. Because around each of the gas holders there is a mound built, practically three feet in height, that shows on the plans. That should have been allowed for in back-filling, not in excavation.

Q. What did you allow for the depth of the excavation of the holders in your original figures? A. I allowed to the bottom of those mounds.

Q. Well, how much in feet? A. The depth of the excavation, original gas holder No. 1, 20 feet.

Q. You gave 21 1-2 Thursday, didn't you, for it? A. I took it from the plan, scaled it from the plan.

Q. You say, as I understand you, that you did not figure the original surface, and you don't know what the original surface was? A. I don't know what the original surface was, no means of knowing.

Q. Do you know how far the piers in the dynamo room go down below the building walls, bottom of the building walls? A. I don't recall now, no, sir.

Q. Did you make any figures with reference to that? A. I think I did, yes, sir.

Q. Well, I mean since last Thursday? A. No, sir.

Mr. BROOKS. That is all.

Mr. MATTHEWS. That is all, Mr. Kirkpatrick.

Mr. GREEN. Mr. Ranger, take the stand please.

Mr. MATTHEWS. One question, Mr. Kirkpatrick, before you leave the stand.

Re-direct examination by Mr. MATTHEWS.

Q. The papers that you have been using are the papers upon which you worked out these results since the last adjournment of the Court? A. Yes, sir.

Mr. MATTHEWS. Do you care for that, Mr. Brooks? It shows the figures to which the witness has testified this morning.

Mr. BROOKS. I should like to see them. (The papers were handed to Mr. Brooks.)

Mr. MATTHEWS. We would like to have these marked as an exhibit, but not printed, unless the other side wish them printed.

(Marked by the stenographer, "Ex. 114, E.L.D., Nov. 26.")

CASPER RANGER, *sworn*.*Direct examination by Mr. GREEN.*

Q. Your name is Casper Ranger? A. Yes, sir.

Q. You live in Holyoke, Mr. Ranger? A. Yes, sir.

Q. And what is your business? A. Builder, contractor, lumber merchant, mill—

Q. How long have you been engaged in the contracting and building business? A. Twenty-one years.

Q. And all that while in the city of Holyoke? A. Yes, sir.

Q. What mill buildings have you built? Mention a few during that period. A. I just wrote them off a minute ago. Mill buildings: Symnes & Dudley; George R. Dickinson; Collins Manufacturing Co.; cotton mill, New Bedford; William Skinner & Sons, parts of those two mills; Whiting Paper Company; college buildings—

By the CHAIRMAN.

Q. What is that? A. College buildings.

By Mr. GREEN.

Q. You mean Mount Holyoke college buildings? A. Yes, sir, the Administration Building there, gymnasium, and am building one there now. Another one in Northfield; Middletown, Keating Wheel shop.

Q. Middletown, Conn., you mean? A. Yes, sir. Opera house; Windsor House.

Q. That is the opera house at Holyoke? A. Yes, sir. Finished City Hall in Holyoke. Paper mill in Haverhill; part of Beebe & Holbrook's; Riverside new mill; National Blank Book Company's new mill; Smith & White's new mill; Hadley Thread Company, part of their mill off and on. Then pits, I have built tailrace and pit for Valley Paper Company; helped to build tailrace and pit for the Symnes & Dudley, also for the George R. Dickinson, and Beebe & Holbrook's—one right through the street there, run for 500 feet probably right through the street.

Q. That is down Dwight street in Holyoke? A. Yes, sir. Doing a job on tailrace and pit over in West Warren now, and dam.

Q. Mr. Ranger, have you made an estimate of the cost to reproduce new the buildings, including the wheel pit and tailrace, of the plant now used by the Holyoke Water Power Company for its electric business? A. I have.

Q. In making that estimate, at what time did you take your prices? A. 1898, January, '98.

Q. Did you in your estimate allow anything for depreciation of the buildings on account of age and condition? A. I did.

Q. And what, in your opinion, was the value of those buildings in January, '98, allowing for depreciation on account of age and condition? A. Headgates—

Q. Just give me the total first, and then we will take them up in detail. A. \$73,467.11.

Mr. GREEN. I desire to offer this schedule in evidence, and have it marked. (To the stenographer.) Will you mark this, please?

(Marked by the stenographer, "Ex. 115, E.L.D., Nov. 26.")

[EXHIBIT 115.]

[Original paging shown in brackets.]

ESTIMATE

OF

HOLYOKE ELECTRIC LIGHT PLANT, HOLYOKE, MASS.

Casper Ranger, Contractor, Holyoke, Mass.

SUMMARY.

HEAD GATE	\$2,993.43
WHEEL PIT AND TAILRACE	32,315.98
WHEEL HOUSE	1,440.48
TUNNELS	947.78
DYNAMO BUILDING	17,572.86
STEAM-ENGINE BUILDING	8,698.72
BOILER HOUSE	3,708.83
CHIMNEY	5,789.03
	<u>\$73,467.11</u>

[2]

HEAD GATE.

Excavating, 998 cu. yds. @ 50c.	\$499.00
Canal wall taken down, 223 cu. yds. @ \$1	223.00
Puddling, 135 yds. @ 60c.	81.00
Back filling, 315 cu. yds. @ 20c.	63.00
Canal wall relaid, 75 yds. @ \$4	300.00
Rubble masonry, 146 yds. @ \$4.50	693.00
Brick work, 5,120 @ \$15	76.80
Sheet piling, T. and G., 8,330 ft. @ \$17	139.90
Hemlock timber, 3,900 ft. @ \$15	58.50
Hemlock 3-in. plank, 3,029 ft. @ \$15	45.43
White pine 2-in. plank, 1,056 ft. @ \$25	26.90
Southern pine timber, 4,600 ft. @ \$24	110.00
Wood fender	48.00
Labor and spikes	500.00
	<u>\$2,864.53</u>
Contractor's profit, 10%	286.45
	<u>\$3,150.98</u>
Depreciation, 5%	157.55
	<u>\$2,993.43</u>

[3]

WHEEL PIT AND TAILRACE.

Excavating, 22,885 cu. yds. @ 25c.	\$5,721.25
Canal wall taken down, 320 yds. @ \$1	320.00
Puddling, 1,204 yds. @ 60c.	722.40
Stone filling, 48 yds. @ \$4	192.00
Back filling (earth), 15,242 yds. @ 15c.	2,286.30
Canal wall relaid, 178 cu. yds. @ \$4	712.00
Rubble masonry, 1,893 cu. yds. @ \$4.50	8,519.50
Cut granite masonry, 8 cu. yds. @ \$45	360.00
Brick work wheel pit, 108,120 @ \$9.50	1,027.14
Brick work tailrace, 696,816 @ \$9.50	6,620.05
Hemlock mud sills, 62,267 ft. @ \$15	934.00
Hemlock 4-in. plank, 86,486 ft. @ \$15	1,297.29
Pine 2-in. plank, 31,656 ft. @ \$24	759.74
Spruce sheet piling, 2,105 ft. @ \$17	35.72
Wood arches	155.00
Labor and spikes on lumber	1,000.00
Coffer dam	260.00
	<hr/>
	\$30,924.39
Contractor's profit, 10%	3,092.43
	<hr/>
	\$34,016.82
Depreciation, 5%	1,700.84
	<hr/>
	<u>\$32,315.98</u>

[4]

WHEEL HOUSE.

Brick work, 62,096 @ \$9	\$558.86
Door sills, etc.	55.00
Southern pine timber, 6,228 ft. @ \$22	137.02
Southern pine plank, 2 inch, 3,924 ft. @ \$22	86.33
Pine roof plank, 3 inch, 6,748 ft. @ \$22	148.45
2 doors (1 single and 1 double) with frames	25.00
6 windows and box frames @ \$4.50	27.00
5 windows and plank frames @ \$3	15.00
Gravel roof, 2,045 sq. ft. @ 5c.	102.25
Wall plates cast iron	8.50
Bolts, washers, etc.	5.04
Painting and whitewashing	25.00
Hardware	15.00
Labor and nails	170.00
	<hr/>
	\$1,378.45
Contractor's profit, 10%	137.84
	<hr/>
	\$1,516.29
Depreciation, 5%	75.81
	<hr/>
	<u>\$1,440.48</u>

[5]

TUNNELS.

Excavation, 575 cu. yds. @ 25c.	\$143.75
Back filling, 183 cu. yds. @ 10c.	18.30
Flaggers, 342 sq. ft. @ 18c.	61.56
Concrete floor, 70 sq. yds. @ 60c.	42.00
Brick work, 62,750 @ \$10	627.50
Southern pine timber, 84 ft. @ \$22	1.85
Wood arches	12.00
	<hr/>
	\$906.97
Contractor's profit, 10%	90.69
	<hr/>
	\$997.66
Depreciation, 5%	49.88
	<hr/>
	\$947.78

[6]

DYNAMO BUILDING.

Excavating, 2,900 cu. yds. @ 24c.	\$725.00
Back filling, 772 cu. yds. @ 10c.	77.20
Flaggers, 3,538 sq. ft. @ 18c.	636.84
Concrete floor, 582 sq. yds. @ 60c.	349.20
Brick work, 312,185 cement @ \$9.50	2,965.75
Brick work, 309,489 lime @ \$9	2,785.40
Rubble masonry, 394 cu. yds. @ \$4.25	1,674.50
Cut-stone work, caps, etc.	370.00
Southern pine timber, 31,030 ft. @ \$22	682.84
Spruce plank, 4 in., 29,739 ft. @ \$16	475.82
Spruce plank, 3 in., 22,397 ft. @ \$15	335.96
3-in. native pine plank, 24,740 ft. @ \$21	519.54
Sheathing Southern pine, 3,000 ft. @ \$28	84.00
Sheathing native pine, 1,000 ft. @ \$24	24.00
Top flooring (maple), 21,580 ft. @ \$28	604.24
3 wooden platforms	48.00
79 window box frames @ \$5.50	434.50
1 window box frame	5.00
19 windows and frames @ \$3	57.00
3 windows and frames @ \$3.50	33.00
2 double doors @ \$18	36.00
3 single doors @ \$8	24.00
1 sliding door, tinned, with track	13.50
1 door and frame	5.00
10 inside doors, with frames and casings, @ \$7.50	75.00
Iron work, trusses, plates, and caps	2,115.00
Gravel roof, 7,497 sq. ft. @ 5c.	374.85
Painting and whitening	175.00
Plumbing	150.00
Hardware	60.00

[7]

Labor and nails	\$1,000.00
	<u>\$16,816.14</u>
Contractor's profit, 10%	1,681.61
	<u>\$18,497.75</u>
Depreciation, 5%	924.89
	<u><u>\$17,572.86</u></u>

[8]

STEAM-ENGINE BUILDING.

Excavating, 1,822 cu. yds. @ 25c.	\$455.50
Puddling, 84 yds. @ 60c.	50.40
Back filling, 288 cu. yds. @ 10c.	28.80
Flaggers, 1,674 sq. ft. @ 18c.	301.32
Brick work walls, 243,168 @ \$9	2,188.51
Brick work engine bed, 141,233 @ \$10	1,412.33
Cut-stone work engine bed, blocks, sills, etc.	1,194.00
Southern pine timber, 9,402 ft. @ \$22	206.84
Spruce plank, 13,008 ft. @ \$16	208.13
Pine plank roof, 15,348 ft. @ \$21	322.31
Top flooring (maple), 5,998 ft. @ \$28	167.94
Finishing lumber, 1,500 ft. @ \$24	36.00
Platform outside	15.00
14 windows and frames @ \$5.50	77.00
4 windows and frames @ \$6	24.00
2 outside doors and frames @ \$10	20.00
1 outside double door with frame	20.00
1 sheathing door with glass	22.00
Cast-iron wall plates and wrought iron	665.00
Slate, 46½ sqs. @ \$10	465.00
Zinc flashing	9.00
Galvanized iron gutter	4.25
Leader	7.80
Painting	23.50
Hardware	24.30
Labor and nails	375.00
	<u>\$8,324.13</u>
Contractor's profit, 10%	832.41
	<u>\$9,156.54</u>
Depreciation, 5%	457.82
	<u><u>\$8,698.72</u></u>

[9]

BOILER HOUSE.

Excavation, 176 cu. yds. @ 25c.	\$44.00
Back filling, 22 cu. yds. @ 10c.	2.20
Flaggers, 1,082 sq. ft. @ 20c.	216.40
Brick work, cement, 44,000 @ \$10	440.00
Brick work, lime, 141,484 @ \$9	1,273.56
Paving, 11,038 @ \$10	110.38
Cement coping, 42 ft. @ 20c.	8.40
Cut-stone work, sills, etc.	46.00
Southern pine timber, 1,349 ft. @ \$22	29.68
Pine roof plank, 10,631 ft. @ \$21	223.25
Finishing lumber	15.00
Wrought-iron work, trusses, and cast iron	575.00
Gravel roof, 3,225 ft. @ 5c.	161.25
2 outside doors @ \$18	36.00
1 outside door (single)	8.00
1 inside door with casings	4.00
1 inside door, tinned	14.00
10 box frames and windows @ \$6.50	65.00
16 monitor windows @ \$2	32.00
Painting	20.00
Hardware	35.00
Labor and nails	190.00
	<hr/>
	\$3,549.12
Contractor's profit, 10%	354.91
	<hr/>
	\$3,904.03
Depreciation, 5%	195.20
	<hr/>
	<u>\$3,708.83</u>

[10]

CHIMNEY.

Excavation, 333 cu. yds. @ 25c.	\$83.25
Puddling, 66 cu. yds. @ 60c.	39.60
Back filling, 207 cu. yds. @ 10c.	20.70
Brick work, 393,000 @ \$10	3,930.00
Flaggers, 765 sq. ft. @ 18c.	137.70
Spruce piles, 121 @ \$3.50	423.50
Rubble masonry, 168 cu. yds. @ \$4.50	756.00
Iron work	149.00
	<hr/>
	\$5,539.75
Contractor's profit, 10%	553.97
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	\$6,093.72
Depreciation, 5%	304.69
	<hr/>
	<u>\$5,789.03</u>

Q. Will you take your schedule and turn to page 2. Take, first, the matter of quantities; did you estimate these quantities, Mr. Ranger, yourself? A. Yes, sir.

Q. And in getting at the quantities of the electric light plant, what plans did you use, if any? A. Holyoke Water Power Company's.

Q. You used the same plans that have been introduced here in evidence by the Holyoke Water Power Company? A. Yes, sir, so far as I know, of course. Those are the plans.

Q. Would you recognize them if I showed them to you? Have you the plans here? A. I am sure they are the Holyoke Water Power Company's, so far as that is concerned.

Mr. GREEN. Where are those plans?

The CHAIRMAN. Speak a little louder, please.

The WITNESS. I am sure that they are the plans of the Holyoke Water Power Company, made by their engineers for that sale.

Q. I have here "Plaintiff's Exhibit No. 1;" is that the electric light plant? A. Yes, sir.

Q. Whether or not those are the plans you used? A. Those are the ones, yes, sir.

Q. Take, for instance, this same page 2; I notice that you compute the quantities of the various materials and of the excavating, and then you multiply that by the rate, and you get a total which you add, making the cost of the headgate \$2864.53. Then you add to that a contractor's profit of 10 per cent.? A. Yes, sir.

Q. Then you allow a depreciation from that of 5 per cent.? A. Yes, sir.

Q. Now, in a general way,—is that the general method, rather, that you adopted in getting at the value of these various buildings? A. Yes, sir; that is the way.

Q. In all cases you added a profit on top of your computation? A. Yes, sir.

Q. And then depreciated in most or all instances? A. Yes, sir.

Q. In taking the headgate, for instance, and the brick work, you have put in there 5120 brick, as I take it, at \$15 a thousand; have you computed those brick at what they would cost you to lay? A. Yes, sir; as near as we can judge.

Q. In your hemlock timber you have given 3900 feet of hemlock timber at \$15 a thousand; whether or not that is the exact price that the hemlock timber would cost you, or whether you have allowed a margin for profit? A. Allowed a margin of profit in that.

Q. You have allowed in the hemlock timber a margin? Whether or not that is true also in the case of your pine plank and other lumber that you use throughout in these works? Whether you figured it at exact cost to you, or have you allowed a margin of profit on it in each instance? A. Allowed a margin of profit on it.

Q. Turn to page 3 of this same schedule, or, excuse me, pass on; I don't care for page 3; pass on to page 6, to the dynamo building. You have brick work figured there in cement at \$9.50 a thousand, and brick work in lime at \$9 a thousand? A. Yes, sir.

Q. Why did you use those prices? A. That is about what I was paying at that time.

Q. That is, do you do your brick work, or do you have your brick work done for you? A. It is done for me.

Q. Who did your brick work during the period of '97 and '98 and all during that time? A. Landers.

Q. Mr. Dennis Landers? A. Dennis J. Landers.

Q. What was Mr. Dennis Landers' price for cement brick work of such class of work as this during the period we are dealing with,—in '98? A. Nine and a half.

Q. And for lime work? A. Nine.

Q. Did he do much or little work for you during that period? A. Done all my work.

Q. Have you prepared a list showing the price of various materials and work in the city of Holyoke in January, '98, where purchases were made in amounts similar to the quantities used in building these buildings? A. Yes, sir.

Q. Will you tell me in January, '98, what the cost of red brick per thousand delivered was? A. (Referring to list.) \$6.

By Mr. GOULDING.

Q. Red brick?

Mr. GREEN. Yes.

A. Common brick.

By Mr. GREEN.

Q. \$6 per thousand delivered, as I understand A. Yes, sir.

Q. And paving? A. \$7.

Q. Give me the price per square foot of blue stone paving tile? A. 22 cents.

Q. And broken rock for concrete by the ton on the cars? A. 90 cents.

Q. What was Alpha cement worth a barrel? A. \$2.35.

Q. And common cement? A. 90 cents.

Q. Per barrel? A. 90 cents.

Q. And for unslacked lime? A. 90 cents.

Q. What was building sand by the double load worth a yard? A. A dollar a load.

Q. And gravel screened by the ton? A. \$1.75 a ton for screened gravel.

Q. What is the price of brick masons for a 9-hour day? A. \$4.05.

Q. Helpers? A. \$2.80.

Q. Common laborers for 10-hour days? A. A dollar and a half.

Q. What was first-class slate roofing put on wooden sheathing worth by the hundred square feet? A. \$9.

Q. And the same erected on iron angles? A. \$13 was what we figured, but that is a question, as there hasn't been any done there for some time; I would not swear that that is the exact price for that slating.

Q. Was it as near as you could get to it? A. As near as I could get to it.

Q. From past prices. What was gravel roof worth by the hundred square feet? A. Five cents.

Q. Five cents by the hundred square feet? A. Oh, \$5.

Q. Yellow pine lumber by the thousand feet, board measure? A. \$24.

Q. Spruce lumber? A. \$16.50.

Q. Hemlock lumber? A. \$14.50.

Q. Whitewood ceiling lumber? A. Finish lumber? That would be \$37.

Q. Yellow pine flooring, matched and dressed? A. \$32.

Q. Norway pine roofing? A. \$17.

Q. Three-inch chestnut— A. Plank?

Q. Plank. A. \$18.

Mr. GREEN. (To Mr. Brooks.) I have a schedule of this that I will give you in a moment; I wanted to see if there were any typographical errors.

Q. North Carolina pine sheathing? A. \$25.

Q. And 2 and 3-inch spruce roofing plank? A. \$17.

Q. 7-8 maple flooring? A. \$28.

Q. Hemlock roofing boards? A. \$12.50.

Q. And spruce roofing boards? A. \$16.50.

Q. If I understand you right, were those prices—take, for instance, the lumber—such as a customer buying nearly as large quantities as we are dealing with here could have obtained this lumber for at the lumber yards of Holyoke? A. Yes, sir, to buy it in a lot.

Q. Yes, I understand. Have you that tabulated; have you those prices tabulated? The prices you have given, have you them on a sheet of paper? A. Of these?

Q. These that I have just given; have you got those written out? A. Yes, sir, this is the sheet (indicating).

Q. You have it here? A. My original.

Mr. GREEN. Now, here is a typewritten copy, which perhaps will be a little easier to deal with. I would like to have that printed.

Mr. BROOKS. Does he know whether that is a copy? I suppose you know.

Mr. GREEN. I do. That is why I didn't offer it until he got through; I checked it as he went along. (To the stenographer:) Will you mark that, please?

(Marked by the stenographer, "Ex. 116, E.L.D., Nov. 26.")

[EXHIBIT 116.]

PRICES TO CUSTOMERS OF GOOD CREDIT BUYING IN LARGE
QUANTITIES IN HOLYOKE IN JANUARY, 1898.*Furnished by Casper Ranger.*

Cost per 1,000 delivered for red brick	\$6.00
1,000 paving	7.00
sq. ft. blue stone paving-tile22
ton on cars for broken rock for concrete90
bbl. Alpha cement	2.35
common cement90
bbl. for unslacked lime90
yd. for building sand, double load	1.00
yd. for gravel, screened, per ton	1.75
day of 9 hours for brick-mason	4.05
day of 9 hours for brick-mason helpers	2.80
day of 10 hours for common labor	1.50
100 sq. ft. first-class slate roofing, erected on wood sheathing,	9.00
100 sq. ft. first-class slate roofing erected on iron angles	13.00
100 sq. ft. for gravel roof	5.00
1,000 ft. board measure for yellow pine lumber	24.00
1,000 ft. board measure for spruce lumber	16.50
1,000 ft. board measure for hemlock lumber	14.50
1,000 ft. board measure for white wood ceiling lumber	37.00
1,000 ft. board measure for yellow pine flooring, matched and dressed	32.00
1,000 ft. board measure for Norway pine roofing	17.00
Chestnut 3-in. plank	18.00
N. C. pine sheathing	25.00
2-in. and 3-in. spruce roofing plank	17.00
$\frac{1}{2}$ -in. maple flooring	28.00
Hemlock roofing boards	12.50
Spruce roofing	16.50
Brick laid in cement, per M.	9.50
Brick laid in lime, per M.	9.00

Q. Have you with you the details of these various computations? A. I have.

Q. Will you state how you measured your quantities in the brick walls? How many brick? A. Twenty-four brick.

Q. To what? A. To the foot.

Q. And whether or not you took out the openings? A. I did.

Q. And whether or not that is the custom? A. That is the custom in Holyoke.

Mr. GREEN. I desire to introduce these schedules separately. Is there any disadvantage to you, Mr. Brooks, in examining on the electric schedule, and then let me offer the gas schedule?

Mr. BROOKS. What do you mean? In cross-examination?

Mr. GREEN. Yes.

Mr. BROOKS. Why, no.

Mr. GREEN. The gas schedule will be here in a moment. It isn't here now. It was to be here at 10 o'clock. It was left to be bound up and I have been waiting for it to come, that is all.

The CHAIRMAN. Where is it?

Mr. GREEN. It is on the way. It was to be brought down from Holyoke this morning, and ought to have been here on the 10 o'clock train; we are waiting for it.

Q. Mr. Ranger, let us look at the way you treated these foundations, take it in the wheel pit and in the tailrace. Will you explain how you got at the quantities that you allowed for the foundations? A. You mean stone and brick work?

Q. Yes, take the brick work particularly. A. You take the size of the walls and the length that they gave us on their plans.

Q. Did you take all the quantities that were shown on the plans? A. Took all what belonged to the tailrace.

Q. How did you determine what belonged to the tailrace? A. Well, what I knew to be necessary.

Q. Then they have quantities, you mean, shown on the plan, that you have not figured here? A. Yes, sir.

Q. You have allowed the quantities, as I understand, that you consider necessary for the tailrace? A. Yes, sir.

Q. And do you understand, or can you understand as a builder, from the plans, why these walls were of a size unnecessary for a tailrace?

Mr. BROOKS. How is that competent?

Mr. GREEN. From the plans which are put in by the company, if by any reason, as a builder, he can understand from them why the additional size is there, I think he should be allowed to state it.

The CHAIRMAN. Has he looked at the premises?

Q. Have you been to the premises and looked the premises over in addition to seeing the plans? A. Yes, sir, a number of times.

The CHAIRMAN. Well, as a practical man, he can state what he saw and what his judgment was.

Mr. GREEN. I don't know as the walls themselves show to the eyes of a person going there. I had assumed they were covered up.

The CHAIRMAN. He can give his judgment as to what kind of walls he thinks are there, or perhaps ought to be there.

Mr. GREEN. I think he has stated that in substance.

Q. Can you tell, from an inspection of the walls themselves, how thick they are—that is, in the tailrace?

The CHAIRMAN. As a matter of judgment.

A. By the plans?

Q. No, by seeing them. Can you tell how thick they were or do you have to take the thickness from the plans? A. You have to take the plans for reference.

Q. Are you taking the plans and following the accurate measurements of the plans? A. No, sir.

Q. Why not? Why don't you follow the measurements shown on the plan in getting at those quantities? A. Well, there is piers on the plans and walls.

By the CHAIRMAN.

Q. You don't count those in? A. No, sir.

By Mr. GREEN.

Q. Why not?

Mr. GOULDING. Is that a proper question?

Mr. GREEN. I think he has the right to tell why he does not. I think we have the right to have a builder state why he does not take the quantities that the company's plans show.

The CHAIRMAN. I see no special objection to that.

Mr. GREEN. It had been objected to.

The CHAIRMAN. Very well; I will pass on that if it is objected to. I understand the builder takes these plans, looks them over and says, Here, my judgment as a builder is that some of these things are unnecessary. It does not follow that they are unnecessary, but I don't see but you have got to pay for them whether necessary or not, that is, if it is worth anything. If he holds it is worth anything something is to be allowed for it.

Mr. GREEN. If I comprehend your Honor, we differ from you very materially, unless it is under the term of the words "worth anything." That is what I am trying to get at. We say if they put in here a foundation for a tailrace which is twice as thick as a tailrace needs a foundation, or for any other reason, either through blundering stupidity or because they were going to build a building over it, we say that additional size adds nothing to the value.

The CHAIRMAN. Ask him the question, then, whether it does or not.

Mr. GREEN. Well, I presume that I can, but if your Honor will permit me I desire to ask the question I asked.

(The preceding question, "Why not?" was read by the stenographer.)

The CHAIRMAN. He may answer that question—why not.

The WITNESS. Well, can I state it in my way?

The CHAIRMAN. Yes, go ahead.

A. The walls that are above these other walls, that are put in for the tailrace—there is a wall about 3 feet thick to carry the main building of another wing, of the other three wings. It was intended, I suppose,—

The CHAIRMAN. Never mind about that.

The WITNESS. Well, the piers are there for the other building.

The CHAIRMAN. That is, for a building that is not built?

The WITNESS. Yes, sir.

Mr. GOULDING. I ask that to be stricken out. What does he know about building a building?

The CHAIRMAN. Is that your judgment, that it is piers put there for a building?

The WITNESS. I know so.

The CHAIRMAN. As far as the testimony goes, I think it is admissible.

Mr. GOULDING. Do I understand that answer is in or out? If it is in, we would like to save our exception.

The CHAIRMAN. So far as he says he knows it was there for another building, we do not care anything about that.

Mr. GOULDING. He is undertaking to state the intention of somebody. He cannot state, I submit, their intention.

The CHAIRMAN. The answer must be limited to what is his judgment as to what that pier was put there for.

The WITNESS. May I answer that in my own way?

The CHAIRMAN. You can answer that question—you can give your judgment.

The WITNESS. A few years before that I was directed by the Holyoke Water Power Company—

The CHAIRMAN. That is not proper. You misunderstood me. You can come to that, perhaps, later. Now your judgment is asked as to what those piers were put there for. Were they put there for a building or not—yes or no?

The WITNESS. Yes, sir.

Mr. MATTHEWS. What was your question?

The CHAIRMAN. Were those piers put there for a building or not? He says yes.

Mr. GOULDING. We will save our exception to the admission of that evidence.

The CHAIRMAN. Very well. In his testimony he is trying to express an opinion as to what those piers are there for, and we rule he can testify as to his judgment that those piers, as a practical man—what they were suitable for; and he says they were suitable for a building.

Mr. MATTHEWS. There may be a misunderstanding between counsel for the respective parties in this matter. We had supposed it was conceded that the walls of this tailrace were built with certain piers of a certain thickness, for the proposed extension of the Cabot street mill. That was admitted by witness after witness for the company, and shown on the plans, and generally. In fact, the plans they put in themselves, if I remember rightly, contained a statement to that effect. We had supposed it was conceded, and that the controversy between us was this:

Admitting the purpose in building these foundations of extra thickness and height, whether or not we had to pay for them as a matter of law. But to judge from my brother's remark just now, I should infer that they were inclined to dispute that these foundations were in fact thickened and added to for the purpose of the proposed extension of the Cabot street mill.

Mr. GOULDING. Well, if it is all conceded it is hardly necessary for the witness to put in incompetent evidence, merely by hearsay.

Mr. MATTHEWS. It was admitted by your witnesses. We had supposed it was conceded by counsel. If we are mistaken in that we should like to know it.

Mr. GOULDING. I was dealing merely with this question. I understand the Court has ruled upon it that it is competent as evidence in this case.

The CHAIRMAN. Do not let us have any misunderstanding about that ruling. The ruling was limited to giving this witness a right to express an opinion that those things were there, and were put there, suitable for a building.

Mr. GOULDING. The witness did not say anything about "suitable," I believe. If he had said that he was describing those piers as being suitable to put a building on, probably there would have been no objection.

The CHAIRMAN. That is all I thought it went to.

Mr. GOULDING. He says he knows they were there—he is simply apparently testifying to the intention of somebody else.

The CHAIRMAN. That part is all struck out.

Mr. GREEN. I purpose later on to ask how he knew that.

Mr. COTTER. We understand that was stricken out—that he knew. We understand it was stricken out.

Q. Now, Mr. Ranger, whether or not those piers that you did not compute add anything to the value of the wheel pit or tail-race?

Mr. GOULDING. How does he know?

Mr. GREEN. I think he is a competent man to state.

Mr. GOULDING. I did not understand he had qualified as a millwright, so that he could tell what is suitable for a mill—the appliances to operate a mill—and that is what the question seemed to call for. That is the point of the objection.

The CHAIRMAN. The witness has already testified that he had built a tailrace and has a practical knowledge of it. I think that is a proper question to ask him.

Mr. GOULDING. I did not understand he had qualified as a millwright.

Mr. COTTER. Ask him, Mr. Green, about it.

Mr. GREEN. I will ask if your Honors desire. It seems to me he has shown very ample qualification.

Mr. COTTER. It may be that he has but—

Mr. GOULDING. I did not understand he had qualified as having prepared plans and built mills. He is a contractor who comes and takes a plan and constructs the mill.

The CHAIRMAN. I am satisfied with his qualifications. Mr. Cotter would like to have it inquired about. You can do as you please about it.

Q. You have told us of the wheel pits and tailraces that you have built. Are you familiar with the sizes of walls and the material and dimensions of the material used in the construction of tailraces and wheel pits of this size? A. Yes, sir.

By Mr. GOULDING.

Q. You never have designed any mills, have you? A. Yes, sir.

Q. Made the plans and constructed them? A. Yes, sir.

Q. You have? A. Oh, yes.

Q. How long have you been in that business? A. Oh, I have been doing that ten years.

Q. What mill did you ever plan and design to build? A. Keating wheel building, nine hundred and some odd feet long, four buildings outside of the main building.

Q. You drew the plans? A. Yes, sir, I drew the plans.

Q. Did you ever plan a tailrace and wheel pit? A. Yes, sir; doing one now.

Q. When did you do that? A. Doing it now.

Q. Whom did you do it for? A. John T. F. McDonald.

Q. Where is that? A. West Warren.

Q. And you pretend to say that you drew the plans and designed the whole thing? A. Yes, sir.

Q. Have you got it built? A. Yes, sir, and running.

Mr. GOULDING. I didn't understand he claimed to be a designer.

The CHAIRMAN. I think I understood that in the original qualification, Mr. Goulding.

(The preceding question was read by the stenographer, as follows: "Now, Mr. Ranger, whether or not those piers that you did not compute add anything to the value of the wheelpit or tailrace?"')

The CHAIRMAN. That is admitted.

A. No, sir.

By the CHAIRMAN.

Q. In your opinion? A. In my opinion they are of no use.

By Mr. GREEN.

Q. Does that apply only to the piers or does that apply to any portion of the walls? A. There is a wall there besides.

Mr. GOULDING. I don't understand the location of that wall.

Q. Will you explain that? A. That wall is the south wall on the tailrace. The stone wall is below and then there is a brick wall put on top of it, right up above the arch.

Q. Does it extend clear down? A. It extends some 314 feet, I think it is; and then on the arches, the piers—there is an 8 inch arch sprung from one arch to another, right over the arches, where these piers come—that is supposed to be piers for a mill.

Q. Will you show that on the plan to Mr. Goulding? A. Yes, sir.

Q. Would you like to see it, Mr. Goulding? And the Commission also, if the Commission would like to see it. A. (Indicating on plan.) There is the wall we are talking about, right there. That wall extends from within 20 or 30 feet of the canal, of the second level canal, up to the wheel pit. Those are the piers that are put on top, supposed to be for a building. That is the section there, the other way. This arch is sprung from there to the centre of the other one—from there to there.

Q. Read what it says in connection with those piers on the plan, to identify them. A. I can't; I can't see it.

Q. You mean this pier under which it says, "East foundation wall of proposed Cabot street mill extension." Is that what you refer to? A. That is what I refer to. Those are put in every so often, on the tailrace.

Q. Now the wall was the particular thing that brother Goulding asked about. Where is that wall? A. Right there, sir, on the south side of the tailrace.

Q. Whether or not that wall adds anything to the value of the tailrace? A. No, sir.

Q. Have you there in a convenient form the quantities of the piers and walls which you omitted for the reasons given? A. No, sir, I have not.

Q. You have simply computed what you allowed? A. What I allowed.

Q. It is suggested that I ask you about those tunnel foundations. How have you estimated the tunnel foundations? A. Well, the foundation of the tunnel has been estimated to go down to the bottom of the tunnel.

Q. Will you find it, please, on the plan? A. Well, I was going to show the section. From there up to there.

Q. Now, you are using a certain plan which is marked "Transverse Section through Tunnel, Scale 1-4 inch to 1 foot," and also another one marked "Longitudinal Section through Tunnel, Scale 1-4 inch to 1 foot." Will you explain to the Commission to what point you figure the foundations? A. The foundation of the tunnel is figured down to where it shows the flagging for the tunnel. Beyond that there is some more wall that surrounds the penstock; the penstock is leading to the testing flume of the Holyoke Water Power Company.

Q. When you say "beyond that," you mean below that, do you not? A. Below that, yes.

Q. Whether or not these walls below that add anything to the value of the tailrace in your opinion? A. Of the tunnel, you mean?

Q. Of the tunnel, I mean. A. No, sir, not for any strength of this tunnel.

Q. Have you made an estimate of the value of the gas works? A. I did, sir.

Q. Treating them building by building and allowing for contractor's profits and for depreciation? A. I did.

Q. And what do you say was the value of all these buildings in January, 1898, allowing for depreciation? A. \$53,244.67.

Q. Mr. Ranger, whether or not you adopted the same method here as in the case of the electric works? A. Yes, sir.

Q. You made your own computations? A. Yes, sir.

Q. And the prices that you have used admit of some margin of profit originally? A. Yes, sir.

Q. And then you add a contractor's profit on top of ten per cent.? A. Yes, sir.

Q. And then you allow for a depreciation? A. Yes, sir.

Q. And in that depreciation is allowed, as I understand, what you said in the other case, for the age and condition of the building? A. Yes, sir.

Q. Did you inspect the buildings? A. Yes, sir.

Q. Getting at that depreciation and percentage? A. Yes, sir.

Q. And how did you get at your quantities in these gas works? A. From the plans of the Holyoke Water Power Company.

Q. Did you in all cases use the dimensions given on their plans? A. Yes, sir.

Q. In getting at the quantities? A. Yes, sir.

Q. In the foundations under the old buildings did you use their measurements? A. Well, the foundations under some of the old buildings are not shown, how far they go down, but we take it for what it would have to be—or I did.

Q. That is, you estimated it for what you—just explain yourself again. A. Well, in looking at the plans it don't show anywhere to stop on these walls; they are broke off—

Q. Of what buildings? A. Of the lime room and the condensing room.

Q. Then just how do you get at the foundation; what depth do you take, as a matter of fact? A. I take the depth of the cellar, and a foot besides for the walls to go down.

Q. Whether or not any foundations in excess of those quantities would add anything to the value of the buildings? A. Not in my opinion.

Q. Is there any other particular where you use your judgment in addition to the plans of the Water Power Company in getting at your quantities? A. No. In all cases we took what showed—I took what it showed.

Q. What iron work did you take? Did you take their quantities of iron work, or how? A. The iron work was given to me by Mr. Kirkpatrick from Mace Moulton's figures.

Q. You took it from Mr. Kirkpatrick's figures, from Mr. Moulton? A. Yes, sir; that is in the trusses and such like as that.

Q. In both of these plants whether or not you include your labor in your material or figure it separately? A. Separately.

Q. Well, in the case of the brick work, how is that? A. That is included.

Q. And stone work? A. The same way.

Q. Excavating, of course, is in itself? A. It includes everything.

Q. But your lumber is put in by itself? A. Yes, sir.

Q. And the work on the lumber by itself? A. Yes, sir.

Q. Have you the details of your work in the gas plant the same as in the other? A. Yes, sir.

(The schedule of the gas plant was subsequently offered in evidence and marked "Exhibit 117.")

[EXHIBIT 117.]

[Original paging shown in brackets.]

ESTIMATE

OF

GAS WORKS, HOLYOKE, MASS.

Casper Ranger, Contractor.

OFFICE	\$1,240.72
GASOMETER No. 1	5,796.62
GASOMETER No. 2	7,647.51
GASOMETER No. 3 (BRIDGE STREET)	14,189.28
EXHAUST, CONDENSER, ETC.	3,916.22
PASSAGEWAY	209.41
BLACKSMITH SHOP	324.13
LIME ROOM, PIPE SHOP, ETC.	2,827.85
VALVE ROOM AND WATER GAS ROOM	1,316.31
RETORT HOUSE	4,811.08
WATER GAS PLANT BUILDING	3,380.25
WATER GAS ENGINE ROOM	644.94
COAL SHED	3,893.62
STORE SHED	211.07
TANKS	3,539.58
	<u>\$53,948.59</u>

[2]

OFFICE.

Excavating, 90 cu. yds. @ 20c.	\$18.00
Back filling, 18 cu. yds. @ 10c.	1.80
Flaggers, 175 sq. ft. @ 18c.	31.50
Tar concrete, 47 sq. yds. @ 60c.	28.20
Brick work, 39,000 @ \$9.50	370.50
Stone work, sills, stops, and caps	52.00
Slate hearths @ \$3	6.00
Spruce dimension timber, 2,600 ft. @ \$15	39.00
Spruce lining floor, 600 ft. @ \$14	8.40
Southern pine top floor, 680 ft. @ \$27	18.36
White pine roof boards, 1,000 ft. @ \$18	18.00
White wood sheathing, 2,300 ft. @ \$32	73.60
Base boards, 116 ft. @ \$40	3.88
Chair rail, 100 ft. @ 4c.	4.00
2 outside doors and frames @ \$6.50	13.00
7 inside doors and frames @ \$4	28.00
8 windows, cords, weights, etc. @ \$5	40.00
8 inside blinds @ \$3.50	28.00

4 ventilators @ \$1.50	\$6.00
Hardware	26.00
Plumbing	75.00
Painting	60.00
Drains	12.50
Slating, 8½ sqs. @ \$10	85.00
Gas fixtures and piping	40.00
Mantels and fireplaces	50.00
Inside finish	20.00
Labor on wood work	125.00
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Contractor's profit, 10%	\$1,281.74
	128.17
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Depreciation, 12%	\$1,409.91
	169.19
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	<u>\$1,240.72</u>

[3]

GASOMETER NO. 1.

Excavating, 3,647 cu. yds. @ 20c.	\$729.40
Back filling, 630 cu. yds. @ 10c.	63.00
Brick work, 472,584 @ \$9.50	4,489.54
Brownstone platform and sills	511.00
Spruce dimensions, 11,260 ft. @ \$15	168.90
Southern pine dimensions, 1,800 ft. @ \$22	39.60
Roof boards, 7,221 ft. @ \$14	101.09
8 windows @ \$3.25	26.00
1 door @ \$6	6.00
Slate, 48½ sqs. @ \$10	481.45
Cupola	75.00
Cast iron	18.75
Wrought iron	80.00
Labor and nails	150.00
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Contractor's profit, 10%	\$6,939.73
	693.97
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Depreciation, 20%	\$7,245.76
	1,449.14
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	<u>\$5,796.62</u>

[4]

GASOMETER NO. 2.

Excavation, 3,046 yds. @ 20c.	\$609.20
Back filling, 778 yds. @ 15c.	116.70
Brick work, 622,888 @ \$9.50	6,117.44
Flaggers, 693 sq. ft. @ 18c.	124.70

ESTIMATE HOLYOKE GAS WORKS—C. RANGER. 197

Brownstone coping, 277 ft. @ 90c.	\$249.30
Stone, sills and caps	31.00
Spruce dimension, 11,398 ft. @ \$15	170.97
White pine roof boards, 10,780 ft. @ \$18	194.04
1 door @ \$6	6.00
23 windows @ \$4	92.00
78 $\frac{1}{2}$ sqs. slate	784.00
Cupola	75.00
Hardware	25.00
Wrought iron	45.00
Labor and nails	250.00
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	\$8,690.35
Contractor's profit, 10%	869.04
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	\$9,559.39
Depreciation, 20%	1,911.88
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	\$7,647.51
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[5]

BRIDGE STREET GAS HOLDER No. 3.

Excavation, 6,129 cu. yds. @ 20c.	\$1,225.80
Back filling, 863 cu. yds. @ 15c.	129.45
Flaggers, 1,071 sq. ft. @ 18c.	192.78
Brick work, cement, 601,942 @ \$10	6,019.42
Brick work, lime, 367,100 @ \$9	3,303.90
Stone work, sills, etc.	508.00
Southern pine dimension timber, 2,950 ft. @ \$22	64.90
Native pine dimension, 15,134 ft. @ \$16	258.22
Native pine finishing lumber, 800 ft. @ \$18	14.40
Roof boards, pine, 14,886 ft. @ \$18	267.16
Chestnut plank, 5,432 ft. @ \$18	97.77
Slate, 107 $\frac{1}{2}$ sqs. @ \$10	1,073.33
17 windows and frames @ \$3.25	55.25
18 windows and frames @ \$3	54.00
2 doors and frames @ \$7	14.00
35 window screens @ \$1.25	43.75
Painting	54.00
Hardware	40.00
Fence, 538 ft. @ 50c.	269.00
Labor and nails	400.00
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	\$14,125.10
Contractor's profit, 10%	1,412.51
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	\$15,537.61
Depreciation, 9%	1,348.33
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	\$14,189.28
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[6]

EXHAUST, CONDENSER, WASH, AND PURIFYING BUILDING.

Excavating, 906 yds. @ 20	\$181.20
Back filling, 55 yds. @ 10c.	5.50
Brick work, 290,392 @ \$9.50	2,758.72
Cut-stone work	159.20
Spruce lumber, 18,549 ft. @ \$15	278.24
Southern pine timber, 2,006 ft. @ \$22	44.13
Sheathing, 3,840 ft. @ \$25	96.00
Roofing, 7,100 ft. @ \$18	127.80
Doors and frames }	188.15
Windows and frames }	
Slate, 56½ sqs. @ \$10	568.00
Painting	35.00
Labor and nails	275.00
Iron work	15.00
Hardware	15.00
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	\$4,746.94
Contractor's profit, 10%	474.69
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	\$5,221.63
Depreciation, 25%	1,305.41
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	<u>\$3,916.22</u>

[7]

PASSAGEWAY.

Excavating, 13 cu. yds. @ 20c.	\$2.60
Back filling, 9 cu. yds. @ 10c.90
Brick work, 14,593 @ \$9.50	141.63
Stone work, sills, etc.	22.50
Spruce timber, 377 ft. @ \$15	5.65
Plank, 264 ft. @ \$15	3.96
Roof boards, 225 ft. @ \$21	4.73
2 outside doors @ \$6	12.00
2 windows and frames @ \$3	6.00
Gravel roof, 180 ft. @ 5c.	9.00
Painting	5.00
Hardware	4.00
Labor and nails	20.00
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	\$237.97
Contractor's profit, 10%	23.79
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	\$261.76
Depreciation, 20%	52.35
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	<u>\$209.41</u>

[8]

BLACKSMITH SHOP.

Excavating, 24 cu. yds. @ 20c.	\$4.80
Back filling, 14 cu. yds @ 10c.	1.40
Flaggers, 150 sq. ft. @ 18c.	27.00
Brick work, 19,436 @ \$9.50	184.84
Stone work, sills, etc.	21.65
Spruce dimension timber, 414 ft. @ \$15	6.21
Roof boards, 639 ft. @ \$14	8.95
1 door	6.00
4 windows with frames @ \$3	12.00
Gravel roof, 511 sq. ft. @ 5c.	25.55
Hardware	5.00
Painting	4.00
Labor and nails	20.00
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Contractor's profit, 10%	32.74
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	\$360.14
Depreciation, 10%	36.01
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	<u>\$324.13</u>

[9]

LIME ROOM, PIPE SHOP, AND STATION HOUSE METER BUILDING.

Excavating, 542 cu. yds. @ \$43.20	\$108.40
Back filling, 104 cu. yds. @ 10c.	10.40
Flaggers, 665 sq. ft. @ 18c.	119.70
Brick work, 181,372 @ \$9.50	1,723.03
Brick paving, 2,116 @ \$10	21.16
Cut-stone work	150.00
Spruce lumber, 8,519 ft. @ \$15	127.73
Flooring, 2-in. floor, 4,415 ft. @ \$21	92.71
Sheathing, 1,215 ft. @ \$25	30.37
Doors and frames, 6 @ \$6	36.00
Windows and frames, 19 @ \$5	95.00
Slate, 32½ sqs. @ \$10	323.33
Painting	30.00
Hardware	12.00
Labor and nails	220.00
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Contractor's profit, 10%	\$3,099.83
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	309.98
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	\$3,409.81
Depreciation, 20%	681.96
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	<u>\$2,827.85</u>

[10]

VALVE ROOM AND WATER GAS ROOM.

Excavating, 247 cu. yds. @ 20c.	\$49.40
Back filling, 62 cu. yds. @ 10c.	6.20
Brick work, 75,584 @ \$9.50	718.00
Flaggers, 325 sq. ft. @ 18c.	60.50
Stone work, sills, etc.	54.40
Spruce dimension timber, 2,049 ft. @ \$15	30.74
Southern pine dimension timber, 818 ft. @ \$22	18.00
Spruce flooring, 4,380 ft. @ \$15	65.70
Top floor, 1,092 ft. @ \$27	29.48
2 doors @ \$6	12.00
1 window and frames	2.00
8 windows and frames @ \$3	24.00
Stairs and sheathing	20.00
Iron rods, etc.60
Slating, 578 sqs. @ \$10	56.00
Gravel roof, 196 sq. ft. @ 5c.	9.80
Painting	8.00
Hardware	10.00
Labor and nails	85.00
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Contractor's profit, 10%	\$1,259.82
	125.98
	<hr/>
	\$1,385.80
Depreciation, 5%	69.49
	<hr/>
	\$1,316.31
	<hr/>

[11]

RETORT HOUSE.

Excavating, 448 cu. yds. @ 20c.	\$89.60
Puddling, 104 cu. yds. @ 60c.	62.40
Back filling, 112 cu. yds. @ 10c.	11.20
Flaggers, 612 sq. ft. @ 18c.	110.16
Flag floor, 2,050 sq. ft. @ 22c.	451.00
Brick, 194,520 @ \$9.50	1,847.94
Stone work, sills, etc.	176.21
Iron trusses	1,240.00
5 doors @ \$20	100.00
16 windows @ \$7	112.00
Slate, 564 sqs. @ \$13	731.00
Painting	15.00
Hardware	16.00
Labor and nails	50.00
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Contractor's profit, 10%	\$4,976.51
	491.76
	<hr/>
	\$5,468.27
Depreciation, 12%	656.19
	<hr/>
	\$4,812.08
	<hr/>

[12]

WATER GAS PLANT BUILDING.

Excavating, 224 cu. yds. @ 20c.	\$44.80
Puddling, 112 cu. yds. @ 60c.	67.20
Back filling, 79 cu. yds. @ 10c.	7.90
Flaggers, 574 sq. ft. @ 18c.	103.32
Brick work, 143,016 @ \$9.50	1,287.14
Stone work, sills, etc.	173.80
Brick paving, 16,768	167.68
Wrought-iron trusses	460.00
2 doors @ \$6	12.00
2 doors @ \$10	20.00
11 windows and frames @ \$7.50	82.50
10 windows and frames @ \$7	70.00
Slating, 41 $\frac{1}{2}$ sqs. @ \$13	537.33
Painting	30.00
Hardware	20.00
Labor and nails	50.00
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Contractor's profit, 10%	\$3,135.67
	313.56
	<hr/>
	\$3,449.23
Depreciation, 2%	68.98
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	<u>\$3,380.25</u>

[13]

WATER GAS ENGINE ROOM.

Excavating, 150 cu. yds. @ 20c.	\$30.00
Back filling, 21 yds. @ 10c.	2.10
Puddling, 19 cu. yds. @ 60c.	11.40
Flaggers, 18 sq. ft. @ 18c.	32.40
Brick work, 27,436 @ \$9.50	260.69
Stone work, sills, engine bed, etc.	75.00
Brick pavement, 4,320 brick	43.20
Southern pine timber, 748 ft. @ \$22	16.45
Roof boards, 853 ft. @ \$14	11.94
1 door	8.00
6 windows @ \$6	36.00
Gravel roofing, 682 sq. ft. @ 5c.	34.10
Painting	7.00
Hardware	8.00
Labor and nails	22.00
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Contractor's profit, 10%	\$598.28
	59.82
	<hr/>
	\$658.10
Depreciation, 2%	13.16
	<hr/>
	<u>\$644.94</u>

[14]

COAL SHED.

Excavating, 285 cu. yds. @ 20c.	\$57.00
Back filling, 118 cu. yds. @ 10c.	11.80
Flaggers, 1,130 sq. ft. @ 18c.	203.40
Brick work, 259,856 @ \$9.50	2,468.73
Stone work, sills, etc.	14.00
Spruce dimension timber, 17,631 ft. @ \$15	254.43
Plank, 1,300 ft. @ \$15	19.50
Roof boards, 1½, 11,456 ft. @ \$14	160.38
7 windows @ \$3	21.00
2 doors @ \$1.50	3.00
Cornice, face boards, and corners	45.00
Clapboards, 2,130 ft. @ \$15	31.95
Shingles, 35 @ \$3.75	131.25
Gravel roof, 4,018 @ 5c.	200.90
Painting	40.00
Wrought iron	10.00
Labor and nails	350.00
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Contractor's profit, 10%	\$4,022.34
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	402.23
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	\$4,424.57
Depreciation, 12%	530.95
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	\$3,893.62

[15]

STORE SHED.

Excavating, 45 cu. yds. @ 20c.	\$9.00
Flaggers, 240 sq. ft. @ 18c.	43.20
Spruce dimension timber, 5,600 ft. @ \$15	84.00
Hemlock boards, 3,000 ft. @ \$12.50	37.50
Concrete floor, 200 yds. @ 45c.	90.00
Spruce boards, 1,000 ft. @ \$14	14.00
Shingles	102.00
Labor and nails	100.00
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Contractor's profit, 10%	\$479.70
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	47.97
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	\$4,424.57
Depreciation, 60%	530.95
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	\$3,893.62

[16]

TANK No. 1 (49 ft. 2 in. x 15 ft. 0 in.).

Excavating, 840 cu. yds. @ 20c.	\$168.00
Back filling, 508 cu. yds. @ 10c.	50.80
Concrete, 40 cu. yds. @ \$4.50	180.00
Brick, 79,384 @ \$9.50	754.15
Centres	48.00
	<u>\$1,200.95</u>

TANK No. 2 (35 ft. diam.).

Excavating, 228 cu. yds. @ 20c.	\$45.60
Back filling, 54 cu. yds. @ 10c.	10.80
Concrete, 38 cu. yds. @ \$4.50	171.00
Brick work, 22,440 @ \$9.50	213.18
	<u>\$440.58</u>

[17]

TANK No. 3 (23 ft. diam.).

Excavating, 188 cu. yds. @ 20c.	\$37.60
Back filling, 73 cu. yds. @ 10c.	7.30
Concrete, 23 cu. yds. @ \$4.50	103.50
Brick work, 45,024 @ \$9.50	427.78
Iron work	5.00
Planking, 2,974 @ \$17	50.55
	<u>\$631.73</u>

TANK No. 4 (29 ft. 5 in. x 20 ft. 0 in. and 13 ft. diam. inside).

Excavating, 817 cu. yds. @ 20c.	\$163.40
Back filling, 345 cu. yds. @ 10c.	34.50
Brick work, 82,276 @ \$9.50	781.62
Plank, 1,907 ft. @ \$15	28.60
Concrete, 26 cu. yds. @ \$4.50	117.00
	<u>\$1,125.12</u>

[18]

TANK No. 5 (10 ft. 6 in. diam.).

Excavating, 132 cu. yds. @ 20c.	\$26.40
Back filling, 74 cu. yds. @ 10c.	7.40
Brick work, 9,200 @ \$9.50	87.40
Flaggers, 100 ft. @ 20c.	20.00
	<u>\$141.20</u>

Cross-examination by Mr. BROOKS.

Q. When did you get up these schedules? A. Sir?

Q. When did you get up these schedules? A. Well, I re-figured everything all over within a week.

Q. Within a week? A. Yes, sir.

Q. Who do you mean by "we"? A. Well, I mean me and my clerks.

Q. Did you confer with Mr. Kirkpatrick from time to time about your figures? A. Not on this—this last figuring—re-figuring.

Q. Did you on the previous figures? A. We had some talk, yes, sir.

Q. Well, you conferred together with reference to the figures, didn't you? A. To some extent, yes, sir.

Q. And discussed the question involved, didn't you? A. To some extent, yes.

Q. Yes. When was it that you made the other figures, the other schedule? A. We have been figuring for a year and a half.

Q. When did you make the other figures that you have referred to? A. Well, we made them when—about a year and a half ago.

Q. Where are they? A. I haven't got them; counsel has got them.

Q. Where did they go to? A. The counsel has got them.

Q. Counsel? Well, which one, because there is more than one. A. Mr. Green.

Q. You say you have been figuring for a year and a half? A. Well, we figured about a year and a half ago together, and then of course we didn't do anything on it until some time three or four weeks ago, maybe a month ago.

Q. Since this hearing started here in Boston this last time you have formulated the schedules that are here in evidence, haven't you? A. Yes, sir.

Q. With whose aid? A. My own.

Q. Well, I meant, didn't you have any other aid? A. My clerks.

Q. Did you talk with Mr. Kirkpatrick about it? A. Not to amount—not on anything pertaining to the sizes or anything of that kind.

Q. I know, I mean with reference to the prices about the value and the depreciation? A. No, sir.

Q. Didn't you? A. No, sir, not on those papers.

Q. Not on these papers, but on anything from which these papers were made? A. No, I formed my own.

Q. You were here last week? A. I was, yes, sir.

Q. And since you were here last week during the hearing have you formulated any of the schedules that are in this case?

A. I have made them all over.

Q. Made them all over? A. Yes.

Q. At whose suggestion was that done? A. Counsel.

Q. Well, now, Mr. Ranger, how much personal examination did you ever make of these buildings in either or both the plants?

A. I could not exactly say the number of times.

Q. How many days did you spend in all in making any examination of the gas plant or the electric light plant? A. I couldn't say that I spent any one day at a time.

Q. How many days did you spend in making any examination with reference to the gas plant? A. I have been in each one of them probably a dozen times.

Q. When did you begin going? A. A year and a half ago.

Q. Did you spend three days in all on both plants? A. Yes, probably ten days.

Q. Ten days? A. I don't mean that I was there in the building ten days.

Q. What? A. I don't mean that I was there in the building ten days, you know.

Q. I am asking you with reference to the time that you spent in your examination of the buildings of each plant in all, and at the buildings. A. Well, I should say five or six days, probably.

Q. That would be of the two plants? A. Yes, sir.

Q. What? A. Yes, sir.

Q. When were your services retained in this case? A year and a half ago? A. Yes, sir. Well, I don't know exactly what time it was; about that time; may be two years, for all I know.

Q. Do you hold any official position in the city of Holyoke? A. Well—license commissioner. I have the honor to be chairman of that board, if it is of any use.

Q. Did Mr. Kirkpatrick go with you to the examination of

any of these plants? A. Yes, sir, we have been together a number of times.

Q. Did he go with you every time you went? A. No, sir.

Q. Well, what did your examination consist of at the gas plant? A. The buildings.

Q. You looked at them; did you take any measurement? A. No, sir.

Q. Make any examination of the soil? A. No, sir.

Q. Did you at the electric light plant? A. No, sir.

Q. You never, of course, had to do in your business with the erection of gas works or electric light works, did you? A. No, sir; electric light engine rooms.

Q. What? A. I have built engine rooms for electric light plants, yes, sir.

Q. I mean the various buildings that constitute an electric light plant you never had to do with, did you? A. No, I never built one.

Q. You say that you have had to do with the erection of penstocks and tailraces in the city of Holyoke? A. Yes, sir.

Q. From plans made by yourself? A. No, sir.

Q. From plans made by some millwright or mill engineer? A. Mr. Tower.

Q. Ashley B. Tower? A. Ashley B. Tower..

Q. From his plans mostly your work has been done in the city of Holyoke? A. Yes, sir.

Q. Have you ever performed work in the building of penstocks and wheel pits, raceways or water mechanisms, from anybody's plans but Mr. Ashley B. Tower's in the city of Holyoke? A. Well, from Walther's.

Q. Mr. Walther? A. Yes, sir.

Q. Edward Walther? A. Yes, sir.

Q. And he was connected with Mr. Tower in business? A. Well, that might be—

Q. As an assistant? A. I am not familiar with that.

Q. Well, with those two exceptions, or with that one exception, all your water work—waterway work, if I may so express it—has been done from the plans of Mr. Tower? A. Yes, sir, or Mr. Ellsworth, either one of them.

By Mr. GOULDING.

Q. Who? A. Mr. Ellsworth; I have done some work for Mr. Ellsworth.

Q. I didn't get the name. A. Mr. Ellsworth; E. A. Ellsworth.

By Mr. BROOKS.

Q. What did you ever do from plans of Mr. Ellsworth? A. Well, I think I have done some in the yard of the Albion Paper Company.

Q. Was he connected with Mr. Tower? A. Not at that time.

Q. You do not do the stone work yourself? A. No, sir.

Q. You do not do excavating yourself? A. No, sir.

Q. And so that when you take a job to do work with reference to waterways you sub-let the job principally, don't you? A. Yes, sir.

Q. What part of the job would you yourself as a contractor and builder do, or did you do? A. Well, the wood work—

Q. That is a very small expense of the total cost, isn't it, of a waterway? A. That is so.

Q. What? A. That is so.

By the CHAIRMAN.

Q. Did you complete your answer when you said "Well, wood work"? A. Wood work.

Q. Nothing else? (To Mr. Brooks.) I did not quite understand his answer.

Mr. BROOKS. I thought he had completed his answer, may it please your Honor; I think he so stated.

The WITNESS. Yes, wood work.

The CHAIRMAN. I had in mind the inflection of his voice.

By Mr. BROOKS.

Q. What proportion of the total cost of such a wheel pit and tailrace as is on this electric light plant of the Holyoke Water Power Company would the wood work be? A. Oh, that is a hard question, but I should think probably an eighth.

Q. Well, looking at your schedule of valuation that you have prepared here, do you say that that would be about an eighth? A. Well, in my opinion probably it would be an eighth.

Q. Do I understand you to say that at Warren you are now building a tailrace? A. Have built it.

Q. How much of a tailrace is that? A. Oh, not a very large one.

Q. What was the price of the job? A. About \$8,000.

Q. About \$8,000; and you have completed it? A. Yes, sir.

Q. Can you tell me the size of the tailrace? A. Well, not exactly. It was approximately about 100 feet long and 16 feet—

Q. A tailrace 100 feet long? A. Yes, about 16 feet wide—

Q. Did that \$8,000 comprehend the price of the dam and the tailrace together? A. No; that is the water works from inside the mill to the outside.

Q. Did you do this work yourself over there? A. Yes, sir.

Q. Or did you sub-let it? A. Oh, the digging?

Q. Yes, the digging and everything with the exception of the wood work. A. Sub-let.

Q. How much did the wood work come to? A. Oh, I don't know exactly.

Q. Well, about how much? A. Well, in that wood work the flume was there and—lots of other work. I couldn't say.

Q. Now, when you came to consider the question of excavation in both of these plants at the Holyoke Water Power Company, did you take the surface of the ground as you found it? A. Well, as we find it now.

Q. That is what I mean. A. Yes, sir.

Q. As you find it now? A. Yes, sir.

Q. That is, you did not take into account at all in your computation what the original surface was? A. Well—

Q. Did you? A. Took it as it is on the plans; that is all I want to say.

Q. I think you said you finished the City Hall in Holyoke? A. I was foreman.

Q. What? A. I was the foreman of it.

Q. You were foreman on the job? A. Yes, sir.

Q. And on many of these other jobs that you have spoken of you were also acting as foreman? A. Nothing only the Windsor House and the Opera House.

Q. What? A. The Opera House I have rebuilt all over.

Q. With those exceptions you were foreman upon the wood work part of these jobs? A. No, sir, I built these from top to bottom, these jobs that I have—

Q. What—from top to bottom? A. Take the contract for the whole job.

Q. Yes, but I understood you to say—have you got that list that you read from, or catalogue of your work? A. No, the gentleman that done the writing here, he took that.

Q. Who?

Mr. GREEN. The stenographer, the reporter.

(The stenographer stated in reply to Mr. Brooks that the paper had been taken from the room by one of the preceding stenographers.)

Q. How many wheel pits or penstocks in the city of Holyoke did you ever take charge of and by sub-letting accomplish? A. Well, there is Beebe & Holbrook's, for one.

Q. That is recent? A. Yes, sir.

Q. How long ago? Within a year? A. Two years ago, I think.

Q. What others? A. I think that is what it was—two years ago.

Q. What others? A. The Valley Paper Company.

Q. That was not the building, was it, of a tailrace and wheel pit—the Valley Paper Co.? A. Yes, sir.

Q. An extension, wasn't it? A. No, sir, brand new.

Q. What others? A. Oh, I have done a lot of water works for the Lyman Mills.

Q. I am now asking you what jobs in the city of Holyoke you have taken that comprehended both wheel pit and tailrace? A. Those are the only two jobs.

Q. Those are the only two. These tailraces that you speak of in these two cases were of iron, weren't they? A. Sir?

Q. Were those tailraces of iron that you speak of, the one at the Valley and the one at the Lyman Mills? A. No, sir. They were similar in construction to this—one of them.

Q. Just run back for a moment to the Lyman Mills. Did you say that was similar in construction? A. I said water works.

The CHAIRMAN. He did not say the tailrace at the Lyman Mill.

Q. Oh, I thought you said that you put in a tailrace at the Lyman Mills. A. No, sir.

Mr. GREEN. The Beebe & Holbrook and the Valley were the two that he gave you that he had done both on.

Q. Now you say there was a tailrace in the Beebe & Holbrook job? A. A short tailrace; wheel pit—

Q. What is that? A. There was a short tailrace, wheel pit and iron flume four hundred and some odd feet long, ran up into the head canal; put in headgates.

Q. How long was your tailrace? A. Oh, the tailrace was nothing but a short piece of work.

Q. About how long? A. Well, there was no tailrace when you come right down to that.

Q. That is what I was getting at. A. There was a pit there; you asked me about the pit and the tailrace.

Q. There was a pit but no tailrace? A. Well, a small tailrace; there had to be a tailrace—

Q. Now, I want to take up with you for a moment or two this electric light plant. What allowance appears in your schedule on page 2, in your valuation of the headgate, or upon page 3, in your valuation of the wheel pit and tailrace, for taking care of the water? A. I have not got my schedule. (A copy of the schedule was given to the witness.) What page is that on?

Q. I was inquiring specially with reference to pages 2 and 3 of your electric light schedule. (Previous question read.) A. There is no allowance for taking care of the water on the headgates, because that—

Q. Just answer the question. A. There is no allowance for that. There is allowance for a coffer dam around the tailrace.

Q. What did you allow for pumping, if anything? A. I think I allowed enough in the digging to take care of the pumping.

Q. That is, you say in the excavation you allowed enough at 25 cents a cubic yard for taking care of the pumping? A. I think that is enough to take care of the pumping.

Q. How much pumping, in your opinion, would be necessary there in the creation of this wheel pit and tailrace? A. Oh, it probably—a matter of \$300.

Q. What? A. A matter of \$300.

Q. \$300? A. Yes.

Q. And you think that appears in your total of \$5,721 for excavation? A. Well, that is what I would put it in at.

Q. Do you say you put it in at \$300? A. No, I put it in that; I made that take care of it.

Q. Did you take into consideration in excavation that it had got to be done upon odd days, Sundays and holidays and nights, when the water was out of the canal? A. Yes, sir.

Q. How much did you allow for that? A. I said I let the excavating take care of that—the amount of—what we call the excavating.

Q. You let that take care of all the extra pay that would be necessary for men working nights or Sundays or holidays, did you? A. There is generally only one man at the pump.

Q. I am talking about the excavation as well as the pumping. A. We don't generally have a pump until the last two or three feet.

Q. How long would you estimate that the pump should be kept running down there on such a work as this? A. Oh, four or five weeks.

Q. And you would have that running night and day, wouldn't you? A. Well, yes.

Q. Now, Mr. Ranger, how much do you allow for labor in this excavation and in the pumping? A. For labor?

Q. Yes. A. In the excavation?

Q. And the pumping. A. I don't allow it that way.

Q. What? A. I don't allow it that way.

Q. Well, which way do you mean? A. How much it cost for labor and for hauling, and for anything of that kind.

Q. What I am seeking to get at is, in taking this one item, you say you would allow \$300 for the pumping. A. I didn't say I allowed \$300. You asked me how much it would cost, and I said about \$300.

Q. But you have that, you say, included in your \$5,721? A. I let that take care of it.

Q. That is, you say 25 cents per cubic yard for this tailrace, for excavation, would take care of all the contingencies? A. That is about all there is.

Q. How much did you reckon the labor at per day? A. What labor?

Q. For your excavation? A. I don't reckon it in that way.

Q. Well, how much would it be per day per man? A. I don't know.

Q. Can you tell? A. No.

Q. How much could a man do? A. I don't know.

Q. Would that same answer be true of the various other items of labor that you have here in your schedule? A. Which labor do you mean? There is other labor there; carpenter labor?

Q. No, I mean with reference to excavation? A. Yes, sir.

Q. And stone work? A. Yes, sir.

Q. And brick work? A. Yes, sir.

Q. Now, running along here with the brick work and the stone work, you would not be able to tell me what the man's wages would be or what he would accomplish? A. In brick work or stone work?

Q. Yes. A. No, sir, I would not.

Q. And you could give me no estimate as to the amount of cement, for instance, there would be to a thousand of brick? A. Well, I might approximately give it to you, but I would not swear to it.

Q. And that would be true also of the stone work, would it? A. Yes, sir.

Q. How much slope did you allow for in your various excavations? I am trying to put it to you generally if I can. A. Well, on the heavy excavations, deep excavations, I allow 6 inches to a foot on the side.

Q. Where did you get that figure? Who gave you that as a proper allowance? A. I have done enough of it to know, Mr. Brooks.

Q. Well, I understood you to say you had done none yourself, you had simply sub-let your job. A. Well, I know, but I have to figure it up to find how much I am going to get for it.

Q. Take, for instance, the various excavations necessitated by the structures at the electric light plant, how much slope did you allow? Six inches in every instance? A. On the high banks the same; on the short banks not so much.

Q. How much? A. Oh, probably if the bank was not over four or five feet we would not allow over a foot.

By Mr. GOULDING.

Q. A foot to four or five? A. Yes, sir.

By Mr. BROOKS.

Q. At your headgate how much slope did you allow for? A. The headgate?

Q. Yes. A. Well, allow about the same.

Q. What? A. About the same.

Q. I don't know which same. A. About 6 inches to the foot.

Q. Well, "about" 6 inches. A. About.

Q. What was your allowance? A. Six inches to the foot.

Q. You have your original notes here that show this, haven't you? A. Sir?

Q. Have you your original computations here that would give us information as to the amount of slope allowed? A. Of that schedule?

Q. Yes. A. Yes, sir.

Q. Then tell me just how much you allowed for the slope for the excavations at your headgate? A. I am not able to give it to you just exactly as you put that question. I am able to give it to you what we allowed—what I allowed to—

Q. In this excavation for the headgate can you tell me from anything that you have how much slope you allowed for? A. My intention was when I took—

Q. Can you tell me?

The CHAIRMAN. He wants to know whether you can tell from your book or anything.

Mr. BROOKS. If you cannot, I will pass on.

A. (After examining book.) I cannot give it to you in that way.

Q. Can you from any memoranda that you have, tell me the amount of slope you allowed for in the various excavations that you have made an estimate on? A. I said before about 6 inches to the foot on high embankments. Otherwise—if I can explain a little I think probably I might explain it. In 20 feet we go out 10 feet; 20 feet high, 10 foot out.

Q. I understand you to say that in your memorandum you think you have the amount of slope that you allowed for in each excavation? A. No, sir, I have not.

Q. Have you anything that would show the amount of slope you allowed for on each excavation? A. Well, my figures, that is all—what amounts I figured, probably.

Q. That is, you have got your totals? A. No, sir, I have got it in how much, how wide, how long, how deep.

Q. Well, that does not show you the angle of slope, does it?

A. Well, by taking that in the centre I guess it gives pretty near.

Q. Can you tell me the angle of slope for your various excavations? A. I said before that on high embankments I allowed 6 inches to the foot.

Q. How much did you allow for slope of gasometer No. 1?

A. Six inches to the foot.

Q. And is that the same of the other gasometers? A. Yes, sir.

Q. You mean by that, it is six inches on each side? A. Well—

Q. Or do you mean 3 on each side? A. No, sir, 6 inches on each side, provided we take a plumb line and run out 6 inches to the foot in height.

Q. What was the diameter of these various gasometers? A. I could not tell you just now.

Q. Have you got anything that will tell it? A. I haven't got any more than my book for this.

Q. I don't hear what you say. A. This is the electric light book, or the notes of it.

Mr. BROOKS. Oh, yes.

Mr. GREEN. Take this book. (Giving book to witness.)

The WITNESS. Diameter on gasometer No. 2, 78 1-2 feet.

By Mr. GOULDING.

Q. That is the opening which you made including the slope?

A. That, I think, is in the centre, including half the slope, of the height.

By Mr. BROOKS.

Q. You mean by that, that that is the bottom diameter? Is that the bottom diameter or top diameter? A. I think that is half way.

Q. Well, you think; don't you know? A. I would have to look at the plans in order to determine that.

Mr. GREEN. There would be no objection to his taking the plans.

Q. Then what is your height of your gasometer No. 2? A. 17 feet. There it is, right there. That is the diameter of what we figured—

Q. Diameter of what you figured; what does that mean? A. Well, that is the square feet in that diameter.

Q. Who made these figures and these memoranda on these books? A. That is written by my clerk.

Q. Well, it is all written by your— A. Yes, but these figures are made by me originally.

Q. When? When made by you? A. I don't like to tell you that I had to work Sunday to do it.

Q. Well, you mean this past Sunday? A. Yes, sir.

Q. Well, that is yesterday? A. Friday, Saturday and yesterday.

Q. Yes. So that the various memoranda that you are now testifying with reference to and which appear in these books were made Friday, Saturday and yesterday? A. Yes, sir.

Q. What were they made from? A. The plans of the Holyoke Water Power Company.

By Mr. MATTHEWS.

Q. Do you mean the Holyoke Water Power Company's plans? A. Yes, sir.

By Mr. BROOKS.

Q. So, then, the whole scheme of estimation has been built up during Friday, Saturday and Sunday? A. No, sir, the reason was that we did not have any data to go by, and as I would have to figure this out I thought I would get it down so that I would not have any bother with it.

Q. Well, I say, the only data that you have had as the basis for your present estimate are the data that you constructed on Friday, Saturday and Sunday? A. Well, those are the data, yes.

Q. And that is true of both plants, is it. A. Yes, sir.

Q. Whose writing is that on page 16? A. Clark's.

Q. Whose writing is this on pages 8 and 9? A. Mr. Clark's.

Q. Do you mean to say that the same man wrote both? Look at it. A. (After examining book.) No, sir, this was written by my son.

Q. Well, some of this is written by your son and some of it is written by Mr. Clark; that is contained in these two books that relate to the gas and the electric plant? A. Yes, sir. Probably got tired.

Q. I didn't ask you whether you got tired or didn't. How far does your wheel pit go down below the surface of the water of the canal, in your electric light plant? A. Well, I couldn't say that unless I saw the plan.

Q. About how far?

Mr. GREEN. Let him take the plan.

Mr. BROOKS. I am perfectly willing.

Q. How far do you figure it went down? You may refer to the plans or anything else. A. I didn't figure it in that way. I figured from the elevation of the ground.

Q. Didn't you take into consideration that the excavation went below—a good ways below—the water of the first level canal? A. Yes, sir, I did.

Q. Then how far did you figure that it went below? A. If I had a pad I could tell you.

Mr. GREEN. I will give you one.

The WITNESS. (After computing.) May I ask what the elevation of the road is there?

Q. I don't know; I can't tell you. I asked you what you figured. A. I figure the excavation 27 feet, but I can't tell you how high the top of the water is above that—what the bottom of the canal is.

Q. Is there anything you have that will afford that information? A. Nothing but the plans.

The CHAIRMAN. He has asked you to look at the plans. Why don't you do it? You have the plans right there.

(The preceding question, "Then how far did you figure that it went below?" was read by the stenographer.)

A. (After consulting plans.) Did you mean the top of the water?

Q. Yes. A. About 27 feet.

Q. Are you pretty sure that that is accurate? A. Well, calling the water 100.

Q. Do you figure that to the bottom of your wheel pit? A. To be exact, it would be 27 feet 4 inches.

Q. To the bottom of the wheel pit? A. Yes, sir.

Q. From the surface of the water to the bottom of the wheel pit? A. Yes, sir.

Q. How much did you allow for the supporting of the banks

of the wheel pit? A. Didn't allow anything, in new lumber. We generally take—

Q. What did you allow for the supporting of the walls of your wheel pit against heavy pressure of water, if anything? A. My idea was that we take some—

Q. Did you allow anything? A. No, sir.

Mr. MATTHEWS. He did not make any specific allowance, but he was about to explain what he did allow, and you stopped him. I submit the witness ought to be allowed to answer the question in his own way.

Mr. COTTER. I understood he answered it. If he wishes to say anything further, he may.

Mr. MATTHEWS. I understand he began but did not quite conclude.

Mr. COTTER. If you wish to say anything further that is responsive to the question, continue.

(The answer, "My idea was that we take some—", was read by the stenographer.)

Mr. COTTER. Do you want to add anything to that?

The WITNESS. Take some of the lumber that we would use in the bottom of the tailrace; then when we got the pit built we would take that out and put it back in the tailrace.

Q. How much do you think would be the proper allowance? A. Well, if it had to be cribbed—is that what you want to know?

Q. What would be the proper allowance in dollars for supporting the walls of your wheel pit against a heavy pressure of water? A. Well, if it had to be cribbed—

Q. Take it just as it is; take the situation that is there.

The CHAIRMAN. I think the witness is trying to inform you, if you will let him answer in that way.

Mr. BROOKS. All right.

A. If it had to be cribbed it would take about 15,000 feet of lumber, and in order to connect that—if it had to be new stuff, and used as I say, it would cost about \$345.

Q. Does that count labor in? A. \$360, spikes and all.

Q. Does that include the labor? A. Yes, sir.

Q. Would that be good practice? A. Yes, sir.

Q. You have figured a canal wall taken down. A. Yes, sir.

Q. What do you mean by that? A. Pull out the stones with derricks.

Q. And you figure 223 cubic yards. Where did you get those figures from? A. Got them from the plans.

Q. From the plans of the Holyoke Water Power Company? A. Yes, sir.

Q. That are in this case? A. Yes, sir.

Q. Have you looked over Mr. Kirkpatrick's figures at any time? A. Why, we have talked it over and looked over.

Q. You have looked them over, and looked them over recently, haven't you? A. This is my own original figures, nothing to do with Mr. Kirkpatrick, nor he had nothing to do with this.

Q. Just be kind enough to answer my question. A. Well, I want to put it as it is.

(The question, "You have looked them over," etc., was read by the stenographer.)

A. No, sir.

Q. Didn't you have Mr. Kirkpatrick's schedules that were introduced in evidence here? A. I have seen them.

Q. Where did you see them? A. Oh, I have seen them a number of times.

Q. How lately? A. Last week when I was here.

Q. You have seen them since, haven't you? A. Not to my knowledge.

Q. Didn't you have them Friday and Saturday? A. Me?

Q. Yes, you. A. No, sir.

Q. And weren't they right there in your office? A. Might have been.

Q. Were they? A. I don't know.

Q. Have you noticed by comparison how nearly your books and his agree with each other? A. No, sir.

Q. You haven't paid any attention to that? A. This has been made out by my own measurements from top to bottom—by my own measurements on those plans.

Q. I ask you now, did you look at Mr. Kirkpatrick's figures and notice how closely they resembled yours? A. In this case?

Q. In many respects. A. No, sir.

Q. Did you see him on Saturday? A. Mr. Kirkpatrick?

Q. Yes. A. Oh, yes; saw him Saturday and Sunday.

Q. You were together, weren't you? A. Saturday? No, sir.

Q. Sunday? A. He came into my office Sunday afternoon.

Q. Friday? A. I didn't see him Friday, only what I saw him here.

Q. Were you here on Friday? A. A little while.

Q. Did you see Mr. Kirkpatrick here on Friday? A. Not here, I don't think.

Q. Didn't you see him at home, at Holyoke? A. No, sir.

Q. When you saw him Saturday where did you see him? A. At my office.

Q. When you saw him Sunday where did you see him? A. Up in my office. Not all the time in the office—on the railroad train, on the cars; I saw him on the railroad.

Q. I understood you to say you saw him at your office on Saturday and at your office on Sunday. A. Yes, sir, and on the railroad Sunday night.

Q. Yes; oh, yes, I understand that; that is nothing. Didn't you talk over the figures with Mr. Kirkpatrick that Saturday and Sunday? A. No, sir.

Q. Nor of the calculations and estimates? A. No, sir.

Q. What were you together for on Saturday and Sunday? A. Mr. Kirkpatrick was figuring on his own hook. He was figuring—

Q. He was figuring on his own hook down at your office? A. Yes, sir.

Q. Saturday and Sunday? A. He didn't figure Saturday. Sunday.

Q. There didn't a word pass between you with reference to your estimates? A. I would not say that.

Q. You talked it all over, didn't you? A. Sir?

Q. You talked it all over and compared figures, didn't you? A. No, sir. I don't think Mr. Kirkpatrick knows now what those figures are.

Q. Did you know what his figures were? A. I said I have seen them before, but I don't know what his figures are today.

Q. On Saturday and Sunday did you know what his figures were? A. No, sir.

Q. Didn't see his schedule Saturday or Sunday? A. Not to my knowledge.

Q. You heard Mr. Kirkpatrick's testimony about the slope that he took, six inches, this morning? A. This morning?

Q. Yes, you heard his testimony this morning? A. Well, if he—

Q. Where he allowed for a six-inch slope, didn't you? A. He might have said that—

Q. Didn't you hear it this morning? A. No, sir.

Q. You were sitting right here (indicating), and didn't hear Mr. Kirkpatrick testifying? A. No, sir, I was not sitting there; I was sitting over here (indicating), writing and trying to find out what was built, and I didn't hear it.

Q. Didn't you consider the subject on Saturday and Sunday with reference to the six-inch slope? A. No, sir.

Q. Never talked with him on that subject at all? A. No, sir, not on the six-inch slope.

Q. What? A. Not on the six-inch slope.

Q. Did you talk with him on the question of slope? A. No, sir.

Q. Never discussed the question at all? A. No, sir.

Q. What was the figuring done at your office for? Did you have any peculiar facilities that he did not possess at his own? A. The reason was that there was a book there in reference to diameters, and we had to have that book.

Q. What was the book on diameters? A. Well, on the gasometers, of course, you have got to take the square—get it into square feet. There is a square rule given right out, a root, and from that root you figure out the amount of feet.

Q. So that he came down to your office to consult the rule? A. No, sir; it was one that he fetched.

Q. Oh, he brought it to your office? A. This is a rule or book that is used by architects.

Q. You and he figured together, didn't you? A. No, sir, not on this schedule (indicating).

Q. On which schedule? A. On that schedule or either one of these schedules, no, sir.

Q. Well, what schedules did you figure on? A. We didn't figure on any schedules in this court. What we talked about we kind of looked over together a time ago, probably a year and a half ago.

Q. I was talking, not about a year and a half ago, but about last Saturday and Sunday. A. I say he never had anything to do with this (indicating).

Q. Did I ask you that? A. That is what I understood you, that he helped to figure—

Q. You just told me that you and he did not figure on these schedules; I ask you what schedules you did figure on?

Mr. MATTHEWS. He didn't say he figured on any schedules with Mr. Kirkpatrick Friday, Saturday and Sunday, Mr. Brooks. Your question is assuming that.

Mr. BROOKS. He implied it in his answer.

The CHAIRMAN. He said something about a year and a half ago.

Mr. BROOKS. What is that?

The CHAIRMAN. He said something about a year and a half ago he might have done something with Mr. Kirkpatrick on schedules, as I understood him.

Q. Did you figure in the same room on Saturday and Sunday? A. Yes, sir. He was not there only an hour or an hour and a half.

Q. Did I ask you that? I asked you if you figured in the same room on Saturday and Sunday? A. I told you yes, sir. May I—?

Q. Did you figure your back-filling from the plan? A. Yes, sir.

Q. Both plants? A. Yes, sir.

Q. Did you allow anything for any peculiarity of soil of either of the plants? A. Soil?

Q. Only soil—soil. A. It is mostly sand.

Q. Well, did you allow for its being mostly sand in your figuring? A. In the excavating?

Q. Yes. A. Well, we think that is the easiest digging there is.

Q. You allowed for it, did you, and when you came to estimate your slope you estimated on the theory of sand, didn't you? A. Yes, sir.

Q. How did you happen to 'light on 5 per cent. for depreciation? A. How?

Q. On your electric plant, yes, sir. A. By looking at the buildings.

Q. That is your depreciation in every instance, isn't it, where you made depreciation? A. No, sir; no, sir. There is more depreciation to some—

Q. I am talking now about the electric plant. A. Well, those buildings were all built at the same time.

Q. Yes. That was your depreciation in every instance where you make any depreciation for the electric plant? A. I believe so; I believe so.

Q. Now, in your engine building did you figure in the engine foundations? A. Yes, sir.

Q. And how much did you depreciate those, five per cent.? A. Yes, sir.

Q. And for everything, as I understand it, foundations and all that comprehend this electric lighting plant you allowed 5 per cent. for depreciation? A. Take those buildings as a whole.

Q. You took everything and put 5 per cent. depreciation on them, didn't you? A. Yes, sir.

Q. Did you have any system by which you arrived at this conclusion? A. No, sir; looked at it.

Q. For your gas plant, your depreciation, I notice, varies; you have 20 per cent. depreciation, 12 per cent. depreciation, 25 per cent. depreciation, and so on, for the various buildings? A. Yes, sir.

Q. You had no system by which you reached that conclusion, did you? A. The only system I had was the age of the buildings and the looks of them.

Q. Now, is it true that you arrived at your depreciation by the consideration of age only? A. No, by the looks of it.

Q. How much did you allow for age in your depreciation, of the gas plant, for instance? A. Well, I could not exactly describe that.

Q. Well, about how much? A. I could not tell you.

Q. What proportion of your depreciation comprehended looks? A. Well, when a building is cracked up here and there and needs repairing we think it is about—and been there so long, we think it depreciates it so much. Of course I cannot describe it exactly.

Mr. GOULDING. What does that mean?

Q. That sounds all right; I don't object to that. Are you

able to separate in any instance the depreciation of age from the depreciation of looks that you allowed for? A. Not scientifically.

Q. I don't know just what that may mean. You cannot separate it practically, can you? A. Nor no other man.

Q. I am asking you. A. No other man can do it. His opinion is the only thing that a man can give.

Q. Aren't those gas buildings in pretty good condition? A. Well, there is one or two of them that are good.

Q. The gasometers are in good condition? A. Oh, to some extent.

Q. Did you ever have occasion to value a gas or electric light plant before? A. I didn't understand you.

Q. Did you ever have occasion to value gas buildings or electric light buildings before? A. Before this one?

Q. Yes. A. No, sir.

Q. You have no experience with reference to gas or electric lighting buildings except what you have got in this case? A. That is all.

Q. You say that the masonry in the tailrace is in your opinion too large? A. No, sir; I didn't say so.

Q. Well, is it? A. Well, I didn't say so.

Q. Tailrace of the electric lighting plant? A. I didn't have reference to any such thing.

Q. Well, is it too large? A. I would not say it was.

Q. Have you valued all the masonry in the tailrace? A. Yes, sir.

Q. Of the electric lighting plant? A. Yes, sir.

Q. You don't value the piers? A. Well, I take that as brick work. When you said "masonry" I thought you meant stone work.

Q. Yes, but you don't value the piers? A. Piers nor wall on top.

Q. Did you discuss that with Mr. Kirkpatrick as to whether you had better allow for that or not? A. I have talked it over with him more or less, yes, sir, and with other folks.

Q. How did you determine that these piers were not necessary for the strength of the structure? A. Well, because they are on top of it. They had no strength whatever—no bearing on the matter whatever.

Q. You say they don't have the slightest influence? A. They are a detriment.

Q. They are a detriment? When did you come to that conclusion? A. Well, it was—well, I don't know as I would like to say they are a detriment, because it is only a waste of money on this particular thing.

Q. When did you come to that conclusion? A. Well, I have always had the opinion that when anything was wasted—

Q. When did you come to this conclusion in this particular case, that those piers were a detriment or of no utility to the present structure? A. A year and a half ago, or more.

Q. Where does the tunnel lead to? A. From the wheel house to the dynamo room.

Q. You made no figures to estimate the strength of the masonry there, did you? A. No, sir.

Mr. GOULDING. You mean in the tunnel?

Mr. BROOKS. Yes.

Q. I mean in the tailrace arches. A. They are strong enough.

Q. What? A. They are strong enough.

Q. What have you allowed, Mr. Ranger, for contingencies in the estimates of these two plants? A. Haven't made no allowance.

Q. What have you allowed for engineering? A. Well, when a man gets ten—

Q. What have you allowed for engineering? A. It is in the ten per cent.

Q. What? A. It is in the ten per cent. profit.

Q. That is, in the contractor's profit of ten per cent. you allowed for engineering? A. Yes, sir.

Q. How much of that is engineering? A. Oh, it probably took a cent.

Q. What have you allowed for superintendence? A. I would not want any if I was there doing the job.

Q. Well, I didn't ask you that. Do you make any allowance for superintendence? A. Not always; I have done a lot—

Q. I mean, do you in this estimate? A. No, sir.

Q. What? A. No, sir.

Q. Don't you think it is a proper allowance to make? A. I

have done lots of work that I never had any superintendent over me.

Q. Well, I didn't ask you that. In making estimates generally is there not something allowed for superintendence? A. That is included generally in the 2 per cent., 2 to 4 per cent., of the architect's fees.

Q. Then from 2 to 4 per cent. would be architect's fees and engineering of this 10 per cent. contractor's profit? A. Well, if you put it as near as I know, about 3 per cent.

Q. Would be for engineering and architect? A. Yes, sir.

Q. Then 2 per cent. for contingencies? A. No, sir.

Q. What? A. No, sir.

Q. How much do you allow, you say? A. Nothing.

Q. Well, isn't there in the contractor's profit the contingencies? A. Well, we don't have any contingencies.

Q. Well, you don't allow anything for any contingencies. What do you allow for insurance? A. None.

Q. You allow nothing for interest during construction? A. None.

Q. Now, who takes the risk in this estimate you made, is it the contractor or the Holyoke Water Power Company, while these things are being constructed?

Mr. MATTHEWS. Risk of what, Mr. Brooks?

Mr. BROOKS. All the risks.

A. You mean fire?

Q. The happening of accidents while the work is in progress? A. The contractor.

Q. The contractor takes those risks? A. Yes, sir.

Q. You knew you would not be called upon, of course, to erect a structure upon these figures? A. Sir?

Q. You knew when you made these figures that you were not going to erect a structure for this price? A. Well, I believe that is the outcome.

Q. But you let out—you would sub-let the contract for everything but the wood work? A. Well, I consider—

Q. That would be so, wouldn't it? A. Yes, to some extent.

Q. Well, it would be to all extent, wouldn't it? A. Well, if it was iron work of course I would have to; stone work we don't do.

Q. Take these two plants; you would sub-let everything but the wood work, wouldn't you? A. In this job?

Q. Yes. A. In this particular job?

Q. Yes, if you were called upon to build? A. Yes, sir.

Q. And what part do you figure the profit in for your sub-contractors, in these prices that you have already given? A. In that price there is 10 per cent. profit.

Q. That is, contractors' profit of 10 per cent.? A. Well, when I gave that—

Q. Does that mean some contractor's profit— A. Those prices that I give there is what I can get it done for.

Q. The prices that you give opposite the various items? A. Yes, sir.

Q. What you can get it done for, you think? A. By the sub-contractors.

Q. Then you figure a 10 per cent. profit for yourself? A. Yes, sir.

Q. And you mean that to cover contingencies? A. Yes, sir.

Q. And architect? A. Yes, sir.

Q. And engineering and everything? A. Yes, sir.

Q. Insurance and interest? A. Insurance? No, sir.

Q. Well, you take the risk, don't you? A. Well, that little thing didn't occur to me on this particular thing, but I don't have to insure out of a hundred cases not ten.

Q. Mr. Ranger, do you know of any accident that happened while these works were being erected in the electric light plant? A. No, sir, only one.

Q. Was that a very expensive one? A. Well, I think the Holyoke Water Power Company ought to know.

Q. Do you know whether or not it was a very expensive one,— A. On this same thing?

Q. —something like \$20,000 expense? A. How much?

Q. \$20,000? A. Well, the people of Holyoke said it was closer to a hundred thousand.

Q. What? A. Closer to a hundred thousand.

Q. Closer to a hundred? A. Well, I am not giving that as anything I know, you know. Had another one happen a little above there that cost a great deal more.

Q. I am not asking you about any other one. Mr. Landers

you consider a very reliable man, do you not? A. Yes, sir; I do.

Q. And his judgment you consider sound judgment? A. Yes, sir; I do.

Q. And you choose him, as I understand it, to do all your brick work? A. Yes, sir.

Q. What is the thickness of the tailrace walls, Mr. Ranger? A. Sir?

Q. What is the thickness of the tailrace wall around the electric light plant— A. I think one of them is 3 feet 4, or 4 feet 4, and the other one is 4 feet.

Q. What would you have there? A. I didn't say anything in regard to the thickness of wall, that it was too large or anything of the kind. I don't wish to be understood so.

Q. And you don't so consider it now? A. No, sir.

Q. Where is there the more foundation, in the north wall of the tailrace or the south wall? A. It is not in the foundation, your Honor,—

Q. Just answer that question. A. The south wall.

Q. The south wall you think has the greater foundation? A. Well, the down-hill wall; I guess that is south.

Q. Can you tell by examining the plan? A. I think so.

Q. I wish you would look at it and state it, which has the more foundation, the south wall of the tailrace or the north wall. (The witness examined the plans.) A. Well, as near as I can see, they are both alike after a certain distance up the race. At the mouth and—

Q. You cannot say from an examination of the plan whether the north wall of the tailrace or the south is the thickest? A. The north wall, sir.

Q. There is nothing upon the plans to show that any building is to be carried by that north wall of the tailrace, is there? A. I could not say.

Q. What depth of excavation did you allow for the chimney for the electric plant? A. Ten feet—ten foot.

Q. And what diameter? A. I figured it 30 foot square

Q. How did you determine the amount of puddling? A. Had to guess at it.

Q. What? A. Had to guess at it.

Q. Well, I see you have allowed 66 cubic yards? A. Puddled 2 feet deep and 30 feet square.

Q. Did you get those figures from anybody? A. No, sir.

Q. And you allowed, I notice, 207 cubic yards back-filling to the chimney? A. 207 cubic yards, yes, sir.

Q. What was the nature of that back-filling? Your allowance simply showed that? A. That was all.

Q. What? A. That was all.

Q. Did you allow for its being carted away and returned? A. No, sir.

Q. And have you any allowance for water in your estimate of the cost of the chimney? A. No, sir; I didn't think there was any.

Q. You didn't know that they were compelled to pump all the time while that foundation was being laid, did you? A. I was not informed, sir.

Q. Have you been informed how much the cost of driving the piles and the piles themselves were? A. Not of this, but others of the same size.

Q. How deep are these piles driven that you have allowed for in the construction of your chimney? A. Well, I have heard say they were about 14 feet, somewhere along there.

Q. That is, do you mean by that that you allow for a 14-foot length pile? A. Well, from 12 to 14 feet.

Q. If they were 27 feet, of course you would agree that that would make a difference in your allowance? A. Yes, sir; yes, sir, it would. I allowed them so much.

Q. You allow for your wheel pit and tailrace of the electric plant 25 cents, including pumping? A. Yes, sir.

Q. And for the chimney you allow 25 cents, and you say you don't include any action of the water or pumping, is that so? A. Yes, sir.

Q. In the chimney where is there any allowance for the iron cap? A. I got \$149.

Q. You say "iron work." A. Well, that is it.

Q. Does that mean the iron cap? A. That is the only iron work there is, except a few little iron rods in the corners.

Q. What? A. There is a few little irons—there is a ladder going up.

Q. What amount in pounds do you make that in your allowance? A. Well, I have not got that down here; I could not say exactly; about three cents a pound.

Q. How much did you allow for hoisting that cap up there, or didn't you allow anything? A. That is always in the contractor's that is building the chimney, he does that.

Q. Would it surprise you if it cost \$150 to hoist that cap up to the top and fasten it? A. Well, I don't know. That generally comes in the brick work with the rest of it.

Q. I know, but you said you allowed for it here? A. No, sir; I said I allowed for the iron.

Q. You allow for the iron as a separate item, but the putting of it up you say is comprehended in your brick work at \$10 a thousand? A. The man that builds the chimney, the bricklayer that builds the chimney puts the cap on.

Q. With no extra charge than the \$10 a thousand for his brick? A. No extra charge; he builds the chimney and puts it on.

The CHAIRMAN. It is 1 o'clock, Mr. Brooks.

Mr. MATTHEWS. That is all, Mr. Ranger, for the present.

(Recess till 2.30.)

AFTERNOON SESSION.

CASPER RANGER, *resumed.*

Cross-examination by Mr. BROOKS, continued.

Q. Mr. Ranger, you have the back-filling for your headgate, I see, taken at 20 cents per cubic yard? A. Yes, sir.

Q. The wheel pit and tailrace at 15 cents? A. Yes, sir.

Q. Why that difference? A. Well, it would have to be done some on Sundays and some on nights on the headgates, which would cost a little more.

Q. Did you really take that into consideration? A. Yes, sir.

Q. Would not the same thing have to be done for the tailrace as well as the wheel pit? A. No, sir. Did I understand you to say wheel pit?

Q. Yes, would not the same be true of the wheel pit and tailrace as of the headgate? A. No, sir.

Q. So you allow five cents per cubic yard, do you, difference? A. Yes, sir.

Q. You have got your dynamo building at ten cents per cubic yard for back-filling? A. Well, that is where it is thrown up onto the bank and thrown right in.

Q. You calculated on that, did you? A. Yes, sir.

Q. And how deep is your excavation for your dynamo building? A. I figured at 9 feet.

Q. Now, what difference did you figure in the cost of labor between the headgate and the wheel pit and tailrace for back-filling? A. Well, I said before that the headgates would have to be done nights and Sundays and—

Q. I understand you to say so. What is the difference in wages per day that you figured? A. Oh, it is double.

Q. What? A. Double.

Q. Double. Well, what other element enters into the difference between your 20 cents per cubic yard allowance for your back-filling for the headgate and the 15 cents per cubic yard for

the back-filling for the wheel pit and tailrace other than the element of labor? A. Well, there is none.

Q. What? A. There is no other element.

Q. You say there is no other difference. Well, then, why didn't you allow double? A. Because we don't need to allow double for the teams.

Q. Did you figure that out yourself? A. Yes, sir.

Q. In all its details? A. Yes, sir.

Q. Or did you make a jump estimate? A. No, sir.

Q. Of a difference of 5 cents per cubic yard? A. Well, when you come to say that, I said before there is no living man can tell just what that costs; it is an impossibility.

Q. I understand so. A. So therefore I have got to make a guess at it, just the same as anybody else.

Q. So all these matters are guesses, aren't they? A. They are just so much, that I will take and do this work for what I am talking about.

Q. You told me this morning that you allowed, didn't you, in your estimate, for a coffer dam? A. Yes, sir, it is there; not on the front—not on the headgates, no, sir.

Q. You didn't allow any coffer dam for your headgates, did you? A. You don't need any.

Q. You did not allow any, did you? A. No, you didn't need it.

Q. Are you certain they did need any when they built this? A. Yes, I think they did, yes, sir.

Q. Don't you think it would be fair to allow this? A. No, sir. If they swept their dirt from one canal to another and went to work, undermined the whole business, that was nobody's fault only their own.

Q. You told me you thought a coffer dam was necessary when the headgates were first erected? A. No, sir.

Q. I thought I understood you to say so only a moment or two ago? A. I didn't mean it if I said so.

Q. Then you don't think a coffer dam was necessary? A. No, sir, we do it nights and Sundays.

Q. Then you think if a coffer dam was erected there it was entirely unnecessary? A. If you will let me explain I will tell you why.

Mr. GREEN. Is it proper that we should criticise the work that was done there some years ago on the assumption that they had done it in a certain way?

The CHAIRMAN. I thought that was what you were doing all the time.

Mr. GREEN. Oh, no. I think your Honor misunderstood. We have said that certain material which had been figured in did not properly belong to the structure being considered. Certain piers have been put on top of the foundations; we say they add nothing to them. Now the question comes, he is estimating what it would cost to do certain work,—how that work ought to be done. Now the proposition is, when they did build these, if certain things were done and if a coffer dam was built, whether or not that affects your judgment or whether it was necessary or whether you would add to your figures, and so on. It seems to me that it leads simply back to an analysis of their original construction of this plant and to a criticism of whether they did their work right or not.

The CHAIRMAN. Isn't there a coffer dam there now?

Mr. GREEN. I don't understand so.

The WITNESS. No, sir.

The CHAIRMAN. I understood by one question or answer that there was.

Mr. GREEN. Oh, no.

Mr. GOULDING. He said that he believed that they made a coffer dam when they originally constructed the headgate. Mr. Brooks is now asking him in substance whether that is necessary.

The CHAIRMAN. I think on cross-examination you may put this.

Mr. GOULDING. It is competent in cross-examination to ask him whether he thought a coffer dam was necessary. He had not allowed for one.

Mr. GREEN. No, that was not the question, whether a coffer dam would be necessary. Taking the condition as a person would find it in 1898, the question is, was a coffer dam necessary at the time they built this.

Mr. GOULDING. I think it is entirely clear that in cross-examination he has a right to test him. There is no difference; it was needed then and is needed now.

The CHAIRMAN. You present this man here, Mr. Green, a competent man to give us almost anything that bears on this question, and Mr. Brooks' question is within that line on cross-examination. We will admit it.

(The question was read.)

The CHAIRMAN. What is your answer?

A. I think it was unnecessary.

Q. Don't you think it was a matter of good precaution and good practice? A. Will you let me explain it, Mr. Brooks?

Q. No, answer my question.

Mr. GREEN. I think that the question is, Was it necessary if it had been originally started as it should be started, or was it made necessary by developments owing to methods of doing business. He has tried two or three times, it seems to me, to bring the matter out.

Mr. BROOKS. I don't ask him any such question.

(The preceding question, "Don't you think it was a matter of good precaution and good practice?" was read by the stenographer.)

The CHAIRMAN. You can answer that question yes or no, if possible, and then you can explain what you desire.

A. I don't think it was necessary.

Mr. BROOKS. That is not my question.

The CHAIRMAN. The question calls for an answer yes or no, Mr. Witness.

A. Well, I will say yes to that.

Q. Now, you have allowed how much sheet piling for your wheel pit—how much 4-inch sheet piling for your wheel pit and tailrace—according to your schedule? A. I don't think there is any sheet piling in the wheel pit.

Q. Wheel pit and tailrace. Excuse me, look and see.

Mr. GREEN. It is page 3.

The WITNESS. Right on the bottom.

Q. You have allowed 2105 feet. A. That is what there is across the bottom, sir.

Q. I said you have allowed 2105 feet. A. Yes, sir.

Q. Did you figure that from the plan? A. Yes, sir.

Q. Will you take that plan and figure that once more? A. Well, I might be mistaken.

Q. Will you look at the three places where that appears upon the plans? A. (After consulting plans.) The mistake I can explain is on that plan there, that we didn't see at the first place; it makes a difference of about 700 and some odd feet.

Q. You are pretty sure now that if you add 700 and some odd feet to your present figures of 2105 feet it will be accurate? A. A difference of 829 feet.

Q. Which way? Have you got it too little or too much? A. Add on 829 feet—is what there is in it.

Q. What? A. The amount that I make that now is 2932 feet.

Q. By what process do you get at that result? A. Why, the plans.

Q. I know; but give me the figures. A. Well, 52 by 2 by 4 inches; 52 by 4 by 3 inches; 25 by 12 by 4 inches; 14 by 12 by 4 inches.

Q. Let me ask you, do you make 3 inches by 4 feet by 80 feet in any of your calculations of the amount of sheet piling required for the wheel pit and tailrace? A. No, sir.

Q. Do you make in any of your calculations 4 inches by 2 feet by 54 feet, of the sheet piling? A. By 52 feet.

Q. Well, you mean by that, one of your calculations is 4 inches by 2 feet by 52 feet? A. Yes, sir.

Q. Is another one of your calculations 4 inches by 12 feet by 370 feet? A. No, sir, no such thing shown.

Q. I am asking you if that is one of your calculations? A. No, sir.

Q. And you say that you have figured the amount of sheet piling necessary from these plans? A. Yes, sir.

Q. And that, as you make it, it should be substantially about 3000 feet? A. About 3000 feet.

Q. In your wheel house calculation what did you estimate the zinc flashing to be worth—anything? A. You mean on the roof, do you?

Q. Yes. A. I don't make any estimate of it.

Q. Your pipe railing; do you have any such thing as that in your estimate? A. No.

Q. Steam pipe of any kind? A. No, sir.

Q. Or any piping of any kind? A. No, sir, except in the plumbing.

Q. Nor valves; nor painting? A. Yes, sir.

Q. Where does that appear in your schedule of the wheel house? \$25? A. I guess that is enough.

Q. Well, that is what you allow? A. Whitewashing and painting, yes, sir.

Q. What did you include in the hardware? A. We included them in the doors and windows as we put them in.

Q. And that is all? A. That is all. A few nails. It says, "Labor and spikes."

Q. You haven't allowed anything for waste in the lumber, have you? A. 10 per cent. That is on the plank; plank flooring and roofing and all such stuff as that.

Q. Where does that appear? A. It is in the bill. When it is figured up the amount is carried out and the 10 per cent. added on it.

Q. That is included in your gross estimate? A. Yes, sir. I want to say that that is not—don't mean on top flooring or such stuff as that. We allow more there.

Q. I don't catch that last. A. I allow more in the top flooring than what we do on the plank.

Q. And you say that all appears in your gross estimate? A. Yes, sir.

Q. Have you any data by which you can tell me how much you allow, in quantities? A. In what?

Q. You allow 10 per cent.? A. Yes, sir.

Q. Was that a lump estimate for the whole thing? A. No, sir; as we went along, as I had the figures made out, my clerks figured up and the 10 per cent. was added right on.

Q. That is so in every instance, is it? A. Yes, sir.

By Mr. GREEN.

Q. Does that show in your details? A. No, it don't show in here, but by figuring out the quantities as we have it here we can get at that.

By Mr. BROOKS.

Q. There isn't anywhere in your details any allowance made for that, is there? A. Made for the waste?

Q. Yes. A. 10 per cent., I said.

Q. Where does it show in any detail? A. Why, it is in the gross amount.

Q. Does it show in these memorandum books that you have prepared since last Thursday? A. No, sir, it don't.

Q. Did you get at the amount of excavation of your tunnels from the plan? A. Yes, sir.

Q. And how did you get at the amount of flaggers for the tunnels? A. The same way.

Q. From the plans? A. The same way.

Q. How much flaggers have you got? How many square feet of flaggers have you allowed for? A. 342 square feet.

Q. And you say you figure that from the plan? A. Yes, sir.

Q. And the concrete floor the same? A. Yes, sir.

Q. What have you allowed in your schedule for labor on the timber for the tunnel? A. There is no timber, only a few feet. There isn't any.

Q. How much? A. Oh, less than 100 feet.

Q. You are quite certain you are accurate about that? A. Well, that is all I could see.

Q. How many pounds of cast iron have you allowed for in your tunnel? A. I didn't allow anything in the tunnel.

Q. Wasn't there any to allow for? A. Not that I know of.

Q. You didn't discover that there was close on to 4000 pounds, did you? A. I don't have anything to do with the machinery. That is under the machinery—under the shafting. Those are the pillar blocks that you have reference to.

Q. Didn't you take any of the iron work into consideration when you came to make up your estimates? A. Not under the shafting.

Q. I see you only have 176 cubic yards of excavation allowed for your boiler house. A. Yes, sir.

Q. Did you figure that from the plan? A. Figured everything from the plan.

Q. Will you be kind enough to tell me how you arrived at that result of 176 cubic yards? Look at your plan, if you please.

Mr. GREEN. Do you object to his looking at his book?

Mr. BROOKS. It doesn't make any difference.

A. 198 feet by 4 by 6 makes 4752 feet.

Q. Will you look at your plan for a moment and see if that is, in your opinion, an accurate result? A. I don't think I need to. I know about what that is.

Q. Well, look and find out; examine the plan. A. (Examining plan.) It might be a little too much.

Q. You have got it too much, you think? A. Yes, sir. It ought to be 192 feet by 4 by 6. It is 198 feet 4 by 6 by 4.

Q. How much does that give in cubic yards? A. 176 cubic yards.

By the CHAIRMAN.

Q. How much did you have before? A. Well, I haven't figured out to see what the difference is, but I say it would be less.

By Mr. BROOKS.

Q. Do you say that gives just the same as you had before? A. A little bit less.

Q. What was your depth of excavation, do you say? A. Four feet.

Q. That was your average depth? A. That is what the plan shows.

Q. Do you mean to say that the plan shows the depth of excavation there? A. Yes, sir.

Mr. BROOKS. Please show that to me.

Mr. GREEN. Would the Commission like to see this?

The CHAIRMAN. I guess we will hear the results.

Q. Didn't you go below the flagging for the excavation? A. No.

The CHAIRMAN. (After plans had been examined.) How did you come out on the plan, Mr. Brooks? I didn't understand how you came out on the plan, whether it was determined whether the witness was accurate or not in reference to this particular.

Mr. BROOKS. Yes.

Q. Had you been acquainted with the ground where this electric light plant was erected, before its erection? A. I built a mill right within 150 feet of it there.

Q. Has there been considerable change in the surface of the earth there since the building of this electric light plant? A. I don't think so.

Q. That is, you think that the surface as represented now is about what the surface was before the plant was started? A. I should think so.

Q. Have you made any investigation to determine whether or not that was a fact? A. No, sir.

Q. How much gravel puddling have you got for your boiler house? A. None.

Q. You have 1082 square feet of flagging? A. Yes, sir.

Q. Was that a matter of your personal computation or was it somebody's else computation? A. That is my own. In that there is 410 feet under the boilers.

Q. Well, then all you have got, for all the flagging, is 1082 feet? A. Yes, sir; 195 by 3 foot 6 by 8 inches thick—or I couldn't determine exactly that.

Q. What was the amount of finishing lumber that you allowed for, for the boiler house? A. Well, there is only a little moulding on the outside of the monitor window.

Q. You allowed for no quantity? A. No, sir.

Q. You gave a jump estimate there? A. Well, we know pretty near what that is worth a foot.

Q. Why did you make a distinction in the price of flaggers for your boiler house and for your dynamo building? A. I don't know; it must be a mistake.

Q. Was it your personal computation that gives you the amount of gravel roof for the boiler house at 3225 feet? A. Yes, sir.

Q. What do you allow for the plumbing for your boiler house? A. I didn't know there was any in it.

Q. You didn't know that, then? A. No, sir.

Q. Very well. What was the quality of the gravel roofing of this boiler house? A. Why, what we call a 5-ply roof.

Q. I didn't hear you? A. What we call a 5-ply roof.

Q. Did you make a personal examination of it? A. No, sir.

Q. You estimated on the basis of a 5-ply roof for the boiler house? A. Well—I would like to answer that a little different, and then I can tell you.

(Question read.)

Q. Well, can't you answer that question? I understood you to say that this was a 5-ply gravel roof and you estimated on that theory. A. Mr. Gibson put the roof on and he does my work, and he charged me at that time five cents a foot.

Q. For 5-ply roofing? A. Yes, sir, the same as that is on that, I suppose.

Q. Did you go about to various contractors to determine what they would charge you for the various elements that go to make up these various buildings? A. No, sir.

Q. On these two plants? A. No, sir.

Q. What estimates had Dennis Landers given you for factory buildings in 1898, meaning that, what jobs? A. What?

(Question read.)

A. Well, there is one he done for me right there (taking a paper from counsel's table), just on the—

Q. In 1898? A. January 31, 1898.

Q. What job was that? What concern was it for whom a factory was built? A. I think this is work done at the Riverside Paper Company, some of it.

Q. For the Riverside Paper Company? A. I couldn't say where it was just on the spur of the moment.

Q. Did you do any work in the erection of any factory for a price for brick the same that is given here in the year 1898, and of the same kind? A. Here is 92,414 brick laid, \$9.50, half cement.

Q. That was hardly an answer to my question. Do you say that is the same class of brick that is in the present plant? A. The same thing exactly.

Q. And you say that was in 1898? A. Yes, sir.

Q. What other jobs did you do in 1898 of a character such as this particular plant upon estimates of Mr. Dennis Landers? A. Here is a job he done for me in October, the same year.

Q. 1898? A. Yes, sir.

Q. What job? A. An addition to the Franklin Paper Co.

Q. Very well; what other jobs? A. Well, I can't tell you exactly right offhand.

Q. And you say he did those at the prices that you have estimated here? A. Yes, sir.

Q. That the brick was of the same quality and laid in the same way? A. The same way, yes, sir.

Q. Now running back a moment, you have asserted that Mr. Gibson made this gravel roof for the electric lighting plant? A. Well, I couldn't swear to that; I wouldn't want to swear to that, but that is my impression.

Q. Is there another contractor in the city of Springfield by the name of Grant? A. Yes, sir.

Q. Of your own knowledge or by hearsay you do not know who put that gravel roofing on, do you, of the electric lighting plant? A. Well, I wouldn't say. When I am talking about gravel roof I am talking about what we get it for.

Q. What did you estimate the age of the building of the electric lighting plant? A. I think seven years.

Q. And you estimated them all at the same age, I understood you this morning? A. I understood so, except the wheel house. I think the wheel house was built a little longer.

Q. How far did you go down for your chimney excavations? A. 10 feet.

Q. Mr. Ranger, did you see Mr. Kirkpatrick's figures on the office building of the gas plant? A. Yes, sir.

Q. Did you notice that your figures and his were exactly alike? A. That first—when we figured up a year and a half ago we figured together to some extent.

Q. Oh, so you and Kirkpatrick at some time figured together? A. Yes, sir.

Q. Yes. A. That is, compared notes.

Q. And how many of the figures that you figured together survived until today?

Mr. MATTHEWS. What is that question?

Mr. BROOKS. I say, how many of those figures survived until today without change?

A. There is none of these that Mr. Kirkpatrick had anything to do with. These have all been figured by me.

Q. I understood you that you and he figured together a year ago. A. A year and a half ago.

Q. A year and a half ago. You said that in answer to my question whether or not you had noticed that your figures and his were exactly alike for an office building of the gas plant. A. At that time we figured together to a certain extent.

Q. Did you retain the original figures and adopt them for this estimate? A. When I figured these plans over last Saturday and Sunday the difference was not enough to make a change on it, so I put that same estimate in.

By Mr. GREEN.

Q. On what? A. On the office.

By Mr. BROOKS.

Q. What caused the differences from a year and a half ago?
A. On the office?

Q. I am not confining myself to any particular building, but what caused your differences from a year and a half ago in your various estimates for these two plants? A. Well, the reason was that we did not have anything in details and it would have to be all gone over here, and it would be too much of a job to find out which was which and how it was figured. So I went home and figured this all over again so as to have it in details.

Q. That is, after you heard Mr. Davis and Mr. Kirkpatrick last week you went home and figured this out again, didn't you?
A. Well, I thought it was advisable.

Q. That is all right; I am not complaining about that. A. The attorneys, rather, thought it was advisable to have it in more details.

Q. Do you claim your figures are the same as in your estimates of a year and a half ago? A. No, sir.

Q. Were you here on Thursday? A. Well, I believe so.

Q. What? A. I believe so.

Q. Here in this court room? A. Yes, sir.

Q. Were you with any of the counsel during Thursday, revamping your figures? A. Revamping my figures?

Q. Yes. A. I don't think so.

Q. What occasions your difference in the price of back-filling for gasometer No. 1 and gasometer No. 2? A. The price? The difference in the price?

Q. The difference in the price. A. (After examining gas schedule and book of memoranda.) That is a mistake.

Q. All right. How much wrought iron did you allow for for gasometer No. 2? A. \$45 worth.

Q. Yes, but I mean, can you tell me how much? A. No, sir, not in detail.

Q. Did you allow for all the wrought iron in these various gasometers? A. Not anything connected with the tank or anything of that kind.

Q. What did you allow for the trusses? A. Well, that is about all the iron work there was in it, is what is in the truss rods.

Q. Did you allow for those? A. I believe so.

Q. What? A. I believe so.

Q. Are you sure about it? A. I think so.

Q. Are your estimates for iron work Mace Moulton's estimates, as you understand it? A. Yes, sir.

Mr. BROOKS. There is a mass of differences, may it please your Honors, that I can go into, but I think on the whole we can reserve that for future disposition, when the various schedules are brought to your Honors' attention.

Re-direct examination by Mr. GREEN.

Q. Mr. Ranger, when you had your other schedule here, whether or not you had any of the details or data from which it was made? A. No, sir, I had not.

Q. Whether or not you had preserved any of them? A. No, sir.

Q. Whether they were where you could get them at all so as to answer any questions concerning them? A. No, sir. In figuring jobs after we got it on to paper as this is,—when I say we, I mean my clerks and myself—we get it on to paper just similar to that, scheduled off, and after that we don't care anything more about the data, we throw them away into the waste basket. And I, not knowing that I would be called upon to explain this any more than I would in figuring any building, why, of course I thought they were of no value.

Q. Then you were requested to do so as soon as— A. I was requested to go home and figure them up—figure it up again and keep the data—and I have done so, put them in these books so as to have them for reference.

Q. And have you all the data here used in figuring them? A. Yes, sir, except in a very few things, such as finishing lumber for that monitor, or something of that kind where it don't amount to anything.

Q. Now, has anybody aided you or furnished you any figures or done anything in regard to these schedules besides yourself and the clerks you had to copy your work? A. No, sir. I will say to the question that was asked me this morning about Mr. Kirkpatrick being at my office—there was only one set of plans,

and he had to be there to see the plans for what he wanted. Outside of that, Mr. Kirkpatrick had nothing whatever to do with my figures.

Q. What plans were those that you had? A. The Holyoke Water Company's, a set of them and a set of gas plans.

Q. You were asked in regard to some work that Mr. Landers did for you. Whether or not you have here some bills made out by Mr. Landers, showing not what he estimated, but what he charged for that identical work?

Mr. GOULDING. I object to those bills.

Mr. GREEN. I ask him if he has the bills here.

Mr. GOULDING. Well, you state what is in the bills. That is more objectionable still.

Mr. GREEN. Showing what he charged, without stating the details of it.

Mr. GOULDING. I object to the question.

(The question was read.)

The CHAIRMAN. For what work?

Mr. GREEN. I mean by that the work concerning which you were questioned by Mr. Brooks a while ago.

The CHAIRMAN. Showing what he charged, I suppose, is what he means.

Mr. GREEN. Yes.

The CHAIRMAN. Strike out "estimated;" go on. We admit it.

Mr. COTTER. So far as it has a tendency to contradict.

Mr. GOULDING. I would like to know on what principle that is admitted.

The CHAIRMAN. Has not this Mr. Landers testified?

Mr. GOULDING. Certainly.

The CHAIRMAN. All right. Now here is a man who—of course you have not reached that point yet. This question does not call for that. It simply asks whether he has some receipted bills from Mr. Landers. We admit that question.

Q. Have you the bills, first of all? A. Yes, sir. Here is one the first of October—

The CHAIRMAN. Never mind.

Q. Now just a moment. Whether or not January 31, 1898, he rendered you a bill for the 92,000 brick that have been spoken of in the cross-examination heretofore? A. Yes, sir.

Q. Is this a bill rendered you by Mr. D. J. Landers? A. Yes, sir.

Mr. GREEN. I should like to introduce so much of this bill as refers to the charge for the brick.

The CHAIRMAN. To contradict what?

Mr. GREEN. Mr. Landers' testimony.

The CHAIRMAN. In what particular?

Mr. GREEN. Mr. Landers has put in evidence here a schedule showing that he has charged for brick in laying these buildings, \$10, I think—\$10.50 or something of that sort for brick-work.

Mr. MATTHEWS. \$10 and \$11.

Mr. GREEN. \$10 and \$11. Mr. Ranger says the work is identical with this class of work. This is a bill of January, 1898, which he has rendered for work to Mr. Ranger for \$9.50. In support of what Mr. Ranger has said and as contradicting Mr. Landers, I offer it.

The CHAIRMAN. Why is not that admissible, Mr. Goulding?

Mr. GOULDING. It is immaterial, *res inter alios*, no relation to this matter one way or the other.

The CHAIRMAN. This man testified that bricks are worth so much in Holyoke. Now here is a bill produced; I do not know what is in it—perhaps another charge made to this man at this time—for work identical in character, it is so stated by the witness—identical in character. It seems to me that sufficiently identifies—

Mr. GOULDING. Mr. Landers has not testified what he charged this man or any other man.

The CHAIRMAN. No, that is true.

Mr. GOULDING. What tendency does a specific instance of a charge have to prove what the reasonable charge is? Can you go through all the bills made by all the builders in Holyoke for the purpose of showing what the reasonable charge is?

The CHAIRMAN. No, but you produce a man to testify to the reasonable amount; they present a bill made by him at the time.

Mr. GOULDING. The trouble about it is, it does not look to me as if it stood on the footing of a sale at all. It introduces as many instances and as many trials as there are instances, certainly.

The CHAIRMAN. Mr. Green.

Mr. GREEN. Sir.

The CHAIRMAN. Leave your bill here and we will pass on it in the morning.

Mr. GREEN. Very well. I will leave two of them, because it is the same question.

Mr. BROOKS. Can we see them?

Mr. MATTHEWS. Not unless they are to go in. If you look at them, they go in; that is all.

Mr. BROOKS. I was going to look at the date. You say the bill is dated in January?

The CHAIRMAN. I think you had better show them, Mr. Matthews.

Mr. MATTHEWS. If counsel on the other side see them they can go in, as I understand the rule.

The CHAIRMAN. Oh, yes, if they ask for them.

Mr. MATTHEWS. I shall insist on the rule. We are perfectly willing to produce—

By the CHAIRMAN.

Q. Mr. Witness, what are the dates of the bills? A. January 31, 1898, October 31, 1898.

The CHAIRMAN. We will pass on that in the morning, Mr. Green.

Mr. GREEN. Would your Honors like to see them?

The CHAIRMAN. No, not until we pass upon them. Now you can go ahead and complete your examination on everything else.

By Mr. GREEN.

Q. I think I have asked you, but in order that there may be no question, you are, as I understand, a general contractor? A. Yes, sir.

Mr. BROOKS. How is that open?

Mr. GREEN. Why, simply that you have asked him as to what work he did himself. He said that he did the lumber himself. What I am trying to get at is what he contracted for and what he is responsible for.

The CHAIRMAN. I understand him to answer that question.

Mr. GREEN. Yes.

The WITNESS. I want to say that when I am outside of the city of Holyoke I do everything—stone work, brick work and everything else. When I am in Holyoke I just let these jobs out because—

The CHAIRMAN. Never mind your reasons.

Q. But you are a general contractor? A. Yes, sir.

Q. And you are used to figuring these various kinds of work yourself? A. Yes, sir.

Q. You spoke of this penstock for Beebe & Holbrook. That was a very long one extending between two streets, was it not? A. Yes, sir.

Mr. BROOKS. This was put in in direct examination, may it please your Honor, and I cross-examined him, and I agree about it.

The CHAIRMAN. I did not hear what the question was. (Question read.) I do not remember of his testifying—

Mr. BROOKS. He has already testified in direct examination.

Q. Or rather, between two canals?

The CHAIRMAN. Didn't he, Mr. Green?

Mr. GREEN. Yes, sir, but he simply spoke of it as among his qualifications; he spoke of it as qualifying himself. I am not asking this for the purpose of qualifying him.

The CHAIRMAN. You are asking him to get a fact, I suppose?

Mr. GREEN. Yes, sir.

The CHAIRMAN. I don't remember anything about it. You may answer, Mr. Ranger.

A. I did.

Q. Whether in connection with that you did a class of work similar to this in this penstock—or in this tailrace, rather? A. Well, there was no tailrace; there was a wheel pit, headgates and a penstock put in through the street; a penstock four hundred and some odd feet long.

The CHAIRMAN. Mr. Green, I thought you were talking about this plant. You are talking about another plant, are you?

Mr. GREEN. Yes, sir.

The CHAIRMAN. Excuse me for my stupidity. It seems to me you have gone as far as you need to on that.

Mr. GREEN. I am satisfied with that.

The CHAIRMAN. I misunderstood the situation.

Q. You were asked in regard to putting in a crib,—if you would put in a crib or had figured for a crib. If a crib was put in whether or not that fact would affect the amount of excavating that you have allowed? A. It would.

Q. In what way? A. The crib would be—if you used 14 or 16 foot plank and drove your sheet piling right down—the dirt would not need to be taken away off yonder, because the crib would be of no value. If you put your crib in there you contract your bottom together and don't have to dig so far, and I consider that the right way to do that job, instead of putting a coffer dam around the canal.

Q. Now if you use a coffer dam, what way does that affect the excavating? A. None.

Q. Well, did you figure on a crib? A. No, sir. I figured the excavating, allowing clean to the bottom.

Q. Allowing a slope? A. Allowing a slope clean to the bottom.

Q. And as I understand you, if I have got the idea now right, if you put in the crib you would not have to allow for that slope? A. No, sir.

Q. Does it make, in your opinion, any substantial difference in your figures whether you had figured it one way or the other? A. I don't think there would be \$200 difference one way or the other.

Q. You were asked something about the back-filling in this same connection, and you started in to say "May I," and then a question came. Do you remember what it was that you wanted to say in regard to back-filling?

Mr. BROOKS. Back-filling where?

Mr. GREEN. It was in connection with the wheel house, I think, or in connection with the wheel pit or tailrace—something of that sort. (To the witness.) If you do not recall, I will pass on. I made a minute of it at the time, thinking that you might want to explain something.

The WITNESS. I don't seem to recall it.

Q. Very well. You were asked if you would make the foundations any thinner, or would make them less thick than they are now.

Mr. BROOKS. I never asked him such a question.

The WITNESS. I never heard that question.

Mr. GREEN. I understand just that question was asked, and both Mr. Matthews and I understood it that way and made a note of it, both of us; the foundations of the tailrace—whether he would make those foundations any thinner or thicker.

The CHAIRMAN. Go ahead.

The WITNESS. Other places of similar size, 20 foot spans,—the walls in other places are made 2 foot—this is 4 foot stone wall.

Mr. GOULDING. I ask to have that stricken out as having no bearing on the question. I ask to have that answer stricken out as to what is done in other places.

The CHAIRMAN. Oh, yes, let us keep ourselves to the question.

Q. Well, whether in your opinion that thickness of four feet on those walls is necessary or adds to the value of the walls? A. No, sir.

Q. For the purposes of tailrace? A. No, sir.

Q. But as a matter of fact, in your computation what dimensions did you figure the walls themselves? A. Just as they are on the plans.

Q. The 4 feet? A. Yes, sir; 4 feet 4 and 5 feet.

Q. But the brick work which you did not put in—that was on top of these foundations, was it not? A. Way on top, yes, sir.

Q. Now will you look at the plans and look at the north wall and see if the plan itself says anything in regard to the purpose of that pier or whatever it is on the north wall? A. It is for a pier—

Mr. BROOKS. I submit that has been gone into, asked in direct by my friend—

Mr. GREEN. Not on that. You asked the witness, so far as the plans were concerned, if there was anything else that showed that the pier on the north wall or whatever it was was intended for a building, and he said he did not know. I ask him now to go and look at the plans and see if there is anything and call our attention to it.

Mr. BROOKS. My friend went into that in his direct examination.

The CHAIRMAN. It was Mr. Cotter's suggestion that brought it out.

Mr. GREEN. The only difficulty that I experience is keeping in mind all these things. Mr. Brooks asked the witness and he said he did not know. I thought if the witness could point it out to us, he might do it and we would pass along.

Mr. COTTER. If it is on the plan you can point to it and get it on the record just as well as it could be done by the witness.

Mr. GREEN. Possibly I might do it myself, but I do not know why it is not proper to ask the witness, who is familiar with the plans and I am not,—he can find that when I cannot.

The CHAIRMAN. Did the witness in direct examination speak of that?

Mr. GREEN. He did not.

The CHAIRMAN. That location, I confess, I do not follow the details of—the matter of the pier, etc.

Mr. GREEN. He spoke generally.

Mr. TURNER. He pointed to them.

Mr. GREEN. He pointed out where they were, and one was read.

Mr. TURNER. Yes.

Mr. MATTHEWS. Before the Court adjourns I should like to call the attention of the Commission to the testimony of Mr. Dennis J. Landers, a witness for the Company. In Volume 6, pages 255 to 267, will be found his schedule. In that schedule of values the brick work is generally set down as worth either \$10 or \$11 per thousand laid, according to whether it is laid in lime mortar or cement mortar. There were some higher prices, too, for special cases, such as the work in the headgates, and so on; but the common prices that he took for his bricklaying generally were \$10 and \$11 respectively. Upon cross-examination on page 253, the following questions and answers appear:

“Q. What other jobs besides those you have mentioned do you know were done in that period of time for \$9 and \$10 respectively?”

It should be stated that the witness prior to this time had admitted that some jobs he knew of were done for \$9 and \$10 respectively, instead of \$10 and \$11. He was then asked what other jobs he knew of having been done during that period at \$9 and \$10 respectively.

"A. I don't know of any other; outside of this class of work I have specified, \$10 and \$11 is the price they run on.

"Q. Do you know of any mill work done for less prices in the years 1896, 1897 and 1898? A. At that time, no, I do not.

"Q. What do you mean by 'at that time'? A. In 1897 and 1898.

"Q. Do you know at any other time of work being done at a less price? A. Yes, back some years.

"Q. What years? A. Oh, way back in 1875, 1876, 1877 and 1878."

Now we offer these bills for work done by this same witness for the Company, Dennis J. Landers, for Mr. Ranger in the month of January, 1898—I should have said, the work being done in December, 1897, bill rendered January, 1898—and another job done in September or October of 1898, comprising work which Mr. Ranger has testified was similar in character, at \$9.50 for brick laid in cement.

The WITNESS. Half cement.

Mr. MATTHEWS. Half cement. We also offer the evidence of these bills as having been led up to in cross-examination.

Mr. GOULDING. I will call attention to another familiar rule; that is, where in a cross-examination you draw out immaterial matter, you cannot contradict it.

Mr. MATTHEWS. If my brother really means that the price of bricklaying in Holyoke in the month of January, 1898, is immaterial, we fail to conceive the scope of his case.

Mr. GOULDING. Very well. I claim that special jobs that Mr. Landers or anybody else has done are immaterial.

Mr. MATTHEWS. So they would be, if your Honor please, but the testimony of Mr. Landers that no brick was laid in Holyoke for less than \$9 or \$10 is not immaterial. It is the Company's case.

Mr. BROOKS. He said he remembered of none.

Mr. MATTHEWS. Yes. Now we show his own bills showing conclusively that he did lay brick at less than \$10 and \$11—that is, \$1.50 less than the higher one of those two figures.

Mr. BROOKS. How does that tend to contradict?

Mr. GOULDING. My brother's argument is simply an attempt to lift himself by his bootstraps, which he cannot do.

(Adjourned to Tuesday, Nov. 27, 1900, at 10 A.M.)

FORTY-FIRST HEARING.

BOSTON, Tuesday, Nov. 27, 1900.

The Commission met at the Court House at 10'A.M.

CASPER RANGER, *resumed.*

Re-direct examination by Mr. GREEN, continued.

Q. Will you state, using that bill to refresh your recollection, just what work Mr. Landers did for you in the month of January of 1898, the nature of the work, and the price at which it was done, which you paid? A. This work was done in the Holyoke Warp Company's stock house; it says so right here.

The CHAIRMAN. Just use that to refresh your memory.

A. 92,414 brick.

Q. How laid? A. Half cement.

Q. At what price did he do it, and what price did you pay him for doing it? A. \$9.50.

Q. Per thousand? A. Yes, sir, laid.

Q. Now, will you tell us what work Mr. Landers did for you in the month of October, 1898, where it was done, the amount of brick laid, how they were laid, the price for which he did it and the price you paid him? A. Brick was laid in addition to Franklin Paper Company, 151,720 brick, laid in half cement, \$9.50.

Q. Just look at that again and see how they were laid, if there is anything in addition to the laying in half cement? A. Laid in half cement.

Q. How much did you pay him for that work? A. \$9.50. It says cement and half cement.

Q. I understand you already to have testified that the construction of the buildings of the electric light works and of the other work that you have here is the same as this? A. The nature of the work is the same, yes, sir.

Q. In your cross-examination yesterday you were asked in

regard to some writing on various pages of the books that you brought here containing your data and the details of your figuring. You said they were Mr. Clark's. Who is Mr. Clark? A. Clark is my head book-keeper.

Q. This question was put to you: "There is nothing upon the plans to show that any building is to be carried by that north wall of the tailrace, is there?" to which you answered, "I couldn't say." Have you examined that north wall of the tailrace? A. There are some piers on it; I thought I examined it yesterday and told you so.

Q. Then whether or not there is anything on the plans to show that any building is to be carried by the north wall of the tailrace? A. There is, sir.

Q. Your attention was directed in your cross-examination yesterday to the fact that you allowed 25 cents for digging or excavation, including pumping, in the wheel pit and tailrace of the electric plant, and that for the chimney you allowed 25 per cent. Why was it? A. Well, I think it is a harder job to do a small job than it would be a long job like the tailrace. The tailrace you back in, and run your carts right straight in and fill up. On the chimney you couldn't do that—a smaller space.

Q. I wasn't clear from your explanation yesterday whether in putting in the wheel pit or tailrace, one or both, you would use a coffer dam or not. A. No, sir, I would not.

Q. Would you crib it? A. Yes, sir.

Q. And whether or not the expense of cribbing is covered by your figures?

Mr. BROOKS. He went into that yesterday, may it please your Honors, in his re-direct.

The CHAIRMAN. I think you covered that.

Mr. GREEN. Well, if there is any doubt about it—I was not sure that I had.

The CHAIRMAN. If you are in doubt about it, go ahead.

A. I think cribbing is the safest way.

Q. Whether or not the expense of cribbing it is covered in your figures in any way? A. Yes, sir.

Q. In what? A. Well, in the—

Q. In what figures is it covered? A. In the excavating. There will be less excavating if you crib it. What I mean is, the

excavating will be so much less and the back-filling so much less. I can explain that a little better by making a diagram, probably.

Q. Well, do so.

(The witness drew a diagram.)

Q. If you will just explain that to the Commission.

The WITNESS. (Explaining diagram.) Suppose that to be the surface; put this crib in. This would be the timbers down here. There is the top of the floor.

The CHAIRMAN. I wish there was some way to identify it, for we shall not remember it.

Mr. GREEN. Write "surface" where you say the surface is. (The witness wrote the word "surface" on the diagram.)

The WITNESS. Now that there will be a great deal smaller here than of course the digging would be there.

The CHAIRMAN. The day after you have said this we shall not know anything about it.

Mr. GREEN. Explain first, before you put your crib in, what your outside lines show.

The WITNESS. That is the outside line of the bank as it would be dug.

Mr. COTTER. What is the name of it? What do you call it?

The WITNESS. A picture of the hole there.

Q. What are you putting in, wheel pit or tailrace? A. Wheel pit.

Q. Then those outside lines show the dimensions that you would dig it if you did not use a crib? A. Yes, sir. That is the dimensions of the inside if there was a crib used, so that the excavating would take care of the crib by getting it so much smaller.

Q. These side lines represent the slope, do they not? A. Yes, sir.

Q. If you did not use a crib you would have to excavate according to the outer lines? A. Yes, sir.

Q. And if you put the crib in—the crib is made of plank? A. Yes, sir, plank and timber.

Q. You put it just large enough to contain the masonry? A. Yes, sir.

Q. And then you would have to excavate from the top of the crib— A. So much less.

Q. And you would save the excavating between the two diagonal lines by putting in the crib? A. Yes, sir.

Q. And in your method of computation what you would save in excavating would pay for the crib? A. Yes, sir.

Mr. GREEN. Just mark that with your name.

Mr. TURNER. "Wheel pit" also and "Excavation."

Mr. GREEN. Yes. Would you suggest anything else, Mr. Turner, that ought to be marked?

Mr. TURNER. "Crib" and "Bottom."

(The witness marked the sketch as requested, and the sketch was then marked "Ex. 118, F. H. B.")

Mr. GREEN. That makes me think, looking over the stenographer's notes, I do not see that the gas schedule was formally introduced.

The WITNESS. I would like to say that the crib is only on three sides; it leaves the end back towards the tailrace open. We do not have to have any there.

Mr. GREEN. I offer, somewhat belatedly, this gas schedule in evidence.

(Mr. Ranger's schedule of valuation of the buildings of the gas plant was marked "Ex. 117, F. H. B." and is printed at the end of his direct examination, pages 195-203.)

Q. I noticed an error in that gas schedule; I will call your attention to it, Mr. Ranger. On page 14 of the schedule I see that originally the contractor's profit, instead of being added to the total, was subtracted from it, and then later on some one corrected that in pencil. A. That was corrected by my clerk, Mr. Clark.

Q. But the correction was not carried on to the summary on the first page, so that the coal shed should stand on the first page \$3,893.62, should it not? A. Yes, sir.

Q. With that correction, what is the value of the buildings, taking their cost and depreciating for age and condition? A. \$53,948.59.

Q. Mr. Ranger, do you recall what your corrected figure was on sheet piling? It appears here—I will read you a question and answer. A. Twenty-nine something.

Q. Yes, 2,932 feet. That is, you were asked to add on 829 feet and to tell what that made it, and you said it made it 2,932

feet. Now later on this appears as a question and an answer, and I cannot understand it:

“Q. And you say you have figured the amount of sheet piling necessary from these plans? A. Yes, sir.

“Q. And that as you make it would be substantially about 36 feet?”

The CHAIRMAN. Three thousand feet.

The WITNESS. Three thousand feet.

Mr. GREEN. That is the way I remembered the question was—3,000 feet.

The CHAIRMAN. Three thousand feet; I remember it distinctly.

Mr. GREEN. I would like to have this corrected, then, to 3,000 feet.

Q. Mr. Ranger, in making the figures or in getting at your figures or estimates that you have furnished here, was any figure suggested or corrected by either of the counsel for the city? A. No, sir.

Q. Or did the counsel for the city, in any way, directly or indirectly, have anything to do with the figures except to tell you to go ahead and make up your estimate?

Mr. BROOKS. How is that material?

Mr. GREEN. Because a question put by Mr. Brooks makes it competent.

The CHAIRMAN. Answer the question.

A. No, sir.

Mr. GREEN. That is all.

Re-cross examination by Mr. BROOKS.

Q. Mr. Ranger, let me look at those two memoranda which you used. A. Those what?

Q. Two memoranda that you used for prices—Landers' prices.

(The witness produced the two bills referred to and handed them to Mr. Brooks.)

Q. Mr. Ranger, how much profit did you obtain on the two jobs that you have mentioned? A. For the brick?

Q. Ten per cent.? A. On that job?

Q. Yes. A. No, sir.

Q. How much did you obtain? A. Well, I don't very often figure ten per cent.—

Q. How much did you obtain? A. Sir?

Q. How much did you obtain, if you can tell me? A. I cannot.

Q. The profit upon the brick that you have mentioned for the job at the Franklin Paper Company and the one at the Holyoke Warp Company? A. It is not possible to tell you.

Q. You cannot tell? A. No, sir.

Q. You didn't do it for these two concerns by the thousand, the brick work? A. I done it by contract.

Q. What? A. By contract.

Q. You took an entire contract? A. An entire contract.

Mr. MATTHEWS. You mean a lump sum contract, Mr. Brooks?

Q. And how much profit you derived from these brick you don't know and you cannot tell? A. I could not tell you.

Mr. MATTHEWS. Mr. Brooks, you mean a lump sum contract?

Mr. BROOKS. Yes.

Q. When you estimated the excavation for the wheel pit for the electric light company you didn't consider cribbing, did you? A. No, sir.

Q. In your estimate? A. No, sir.

Q. You took a slope of six inches? A. Yes, sir.

Q. Now, what slope would you have with the cribbing? A. The same slope, only not so long.

Q. Not so— A. Not so deep.

Q. Can you tell what the difference would be? A. Well, if we had 16-foot sheet piling they would probably be 14 feet in height—

Q. Can you tell what the difference would be in dollars and cents? A. No, sir.

Q. Well, can you tell what the difference would be in cubic yards? A. No, sir.

Q. And you cannot give us any information as to the cost of the cribbing at this moment? A. I told you yesterday about \$360.

Q. Well, have you figured it out? A. Yes, sir; I have figured it out.

Q. You have figured it out, and you find it to be about \$360?

A. About \$360.

Q. And that includes labor,—everything? A. Yes, sir.

Q. I understand that is for the wheel pit alone? A. Yes, sir.

Q. It does not include the tailrace? A. It don't need any cribbing for the tailrace.

Q. I understood you to say yesterday in your re-direct examination that the reason you and Mr. Kirkpatrick were together was because there was only one plan? A. That is all I know of, one set of each kind.

Q. Of each kind? A. Of each kind.

Q. You mean by that of the gas plant and electric plant of the Holyoke Water Power Company? A. Yes, sir.

Q. And that was the reason, you say in your re-direct examination, you got together? A. We were not together; he came there to figure.

Q. I know, but at your office? A. Yes, sir.

Q. You say that was the reason? A. Yes, sir.

Q. Why did you tell me in my cross-examination the reason was because there was a book that you both wanted to consult, or that you wanted to consult which he brought up? A. Partly both.

Q. Did you use the so-called Ellsworth plans? A. Not at this time, sir.

Q. Did you use them at any time? A. A year and a half ago.

Q. And your first figures were based on the Ellsworth plans? A. Well, based on the Holyoke Water Power Company's as well as Ellsworth's plans. After it was all figured up with the Ellsworth plans I was asked to figure with the Holyoke Water Power's plans, as there was some variations.

Q. Your original figures were based on the Ellsworth plans, and then again you figured on the Holyoke Water Power Company's plans? A. Yes, sir.

Q. There seems to be some uncertainty with reference to questions and answers that were made here yesterday, so with permission I should like to ask you again where your labor is included, where the cost of your labor is included with the cost of

the material, the two making up the sum that you state in your schedule, you are unable to separate the cost of the labor from the cost of material? A. Yes, sir, on certain ones.

Q. Well, on everything, is it not? A. No, sir.

Q. Where your labor is included with the cost of material? A. No, sir; it is not. On excavating, masonry, back-filling and that kind of work, but the wood work is put in separate.

Q. Then on everything except the wood work where your labor is included with the material and the amount carried out in a total you are unable to separate the cost of labor from the cost of material? A. Yes, sir.

Q. That is the way I understood it. A. Yes, sir.

Q. Where you have estimated and placed in your schedules labor and nails, for instance, on what principle did you determine the amount of labor? A. By the thousand.

Q. What? A. By the thousand.

Q. Well, will you turn over, for instance, to page 8 of your schedule? A. On the steam engine building?

Q. The steam engine building.

Mr. GREEN. Is that the electric schedule?

Mr. BROOKS. Of the electric light plant.

Mr. GREEN. Oh, all right.

Q. I see you have labor and nails, \$375? A. Yes, sir.

Q. I am using this as an illustration. How much do you allow for the labor? A. Well, between seven and a half and eight dollars; I cannot say exactly; that being a building where there is nothing but a roof and a floor, we would call that probably a little more. That is probably \$8.

Q. \$8? A. Approximately \$8.

Q. \$8; you mean \$8 for the total? A. A thousand.

Q. For how many thousand? A. Well, whatever the total amount of stuff that was in it, in the building.

Q. Oh, yes. And is that so all through your schedules? Do you allow so much per thousand? A. No, sir.

Q. For the wood work? A. No, sir.

Q. Well, just let me run back. A. Different places, different prices.

Q. Take the dynamo building. A. That is about on an equal footing.

Q. Excuse me a minute; let me find it. A. On the next page.

Q. Oh, yes; I see you have labor and nails \$1000? A. Yes, sir.

Q. On what principle do you determine the amount of labor there? A. The same way.

Q. \$8 per thousand? A. Seven and a half to eight dollars, I cannot say exactly which.

Q. You mean by that, thousands of lumber? A. Thousand feet of lumber.

Q. Now, about the wheel house? A. That was about the same.

Mr. GREEN. What page is that?

Mr. BROOKS. 4.

Q. That is seven and a half to eight dollars per thousand feet of lumber? A. Yes, sir.

Q. And would the same principle apply to the wheel pit and tailrace? A. No, sir.

Q. What is the difference there? A. That is somewhere about \$5 a thousand, because there isn't anything to do to it but to chuck it down.

Q. That is all right. \$5 per thousand feet of lumber? A. Yes, sir, or about that.

Q. For your headgates the same \$5 per thousand feet? A. No, sir.

Q. Or not? A. No, sir; that is a good deal more.

Q. How much do you allow for that? A. Probably allowed fifteen, maybe.

Q. That is, you cannot tell me from anything you have— A. I cannot tell exactly.

Q. —the exact allowances that you made per thousand feet of lumber for your labor? A. On the headgates? You mean on the headgates?

Q. Yes, on the headgates. A. Well, the headgates is a job that—

Q. Well, can you tell me, that is the main thing? A. I should have to figure it out.

Q. What? A. I should have to figure it out.

Q. Cannot you tell by looking at your books? A. No.

Q. They don't give it to you? You haven't anything that will give me the exact allowance per thousand feet of lumber for labor on any of these structures? A. I should say the wheel pit and the tailrace, about \$5; the rest of it about seven and a half dollars to eight dollars.

Q. But you haven't any memorandum that will give that exactly? A. No, sir.

Q. Take the Holyoke Warp Company's building, how many stories was that? A. Two stories.

Q. Two? A. Yes, sir.

Q. Well, that didn't require nearly as much staging, did it, as the building of the electric light plant? A. That does not make any difference in the price of—

Q. Does not make any difference in the cost of brick? A. Not the price of brick in Holyoke.

Q. What? A. Where it didn't take so much staging it took a good deal more brick; it is easier to put a wall in twice as thick as one not half so thick.

Q. Does the amount of staging make a difference in the price of brick? A. Not where they go from the bottom up. The only place where they make any distinction or difference in the staging is where they go on to the next story above, the second or third story, and put another story on. Then they have to build a staging specially.

Q. Do you know what the entire contract price was for these two jobs, the Holyoke Warp Company job and the Franklin Paper Company job? A. I couldn't state.

Q. Can you approximate? A. No, sir, I couldn't, not exactly.

Mr. BROOKS. That is all.

Mr. GREEN. Have you those bills that you used? (The bills were produced.)

By Mr. GREEN.

Q. I understood you to say you received these bills from Mr. Landers? A. Yes, sir.

Q. Did you pay him for that work?

Mr. BROOKS. What has that got to do with it?

The CHAIRMAN. I don't think that has anything to do with it.

Mr. GREEN. I desire to offer the bills, now that they have been used by the other side.

The CHAIRMAN. They offered them in reference to your re-examination.

Mr. GREEN. Yes; but we used them merely as a memorandum, and the other side called for them and used them. I understand the rule of law admits them now to this court.

The CHAIRMAN. I cannot conceive of any such rule as that. The witness takes them to refresh his memory, and thereupon counsel asks to look at the memoranda. It doesn't make them competent.

Mr. GREEN. I think it does.

The CHAIRMAN. Will you cite any authority on that?

Mr. GREEN. I cannot, but I understand that to be the practice and rule of law. I do not know of any decision which says so, but I understand it is so.

The CHAIRMAN. If it says so, I should like to know it. Let it subside, and if you can find anything, we will pass upon it.

Mr. GREEN. Well, I desire to have this question answered, now that this has been used.

The CHAIRMAN. The question you asked the witness was as to whether he had paid the bill or not.

Mr. GREEN. Yes, sir.

The CHAIRMAN. It has no materiality. The bill speaks for itself. It is a mere memorandum, and we exclude it.

Mr. GREEN. Your Honor reserves that, though?

The CHAIRMAN. Certainly, if you can find anything on it. We have not excluded the bills on your offer now. We want to hold that up. Have you any further questions of the witness?

Mr. GREEN. No, sir, nothing further.

(The bills in question, by agreement of counsel, were subsequently admitted in evidence, and were severally marked "Ex. 122, F. H. B." and "Ex. 123, F. H. B.")

[EXHIBIT 122.]

YARDS AT SOUTH HADLEY FALLS, MASS.
MILL WORK A SPECIALTY.

HOLYOKE, MASS., Jan. 31, 1898.

MR. CASPER RANGER

To D. J. LANDERS, DR.,
Mason, Contractor, and Brick Manufacturer.
OFFICE, 231 HIGH STREET.

Dec.	30/31.	To 1½ Days Mason, "Adm." Bldg.	\$4.50	\$6.50
Dec.	31/Jan. 1.	4 " "	4.50	18.00
		4 " Tender	3.00	12.00
		5,560 Brick	7.00	38.92
		14 Bbls. Cement	1.50	21.00
		4 Loads Sand	1.00	4.00
Jan.	1.	½ Day Mason, "Adm." Bldg.	4.50	3.50
	1/3.	3½ Days Double Team, Holyoke Warp Co.	4.00	14.00
	6/7.	1½ Days Mason	4.50	7.00
		1½ " Tender	3.00	3.67
		250 Brick	7.00	1.75
		250 Buff Brick	25.00	6.25
		½ Bbl. Cement	1.50	1.13
		1 " Fire Clay		2.50
		2 Bbls. Mortar	1.00	2.00
	8.	½ Days Mason, "Adm." Bldg.	4.50	3.00
	9.	4 Days Mason	4.50	18.00
		2 " Tender	3.00	6.00
		200 Fire Brick	35.00	7.00
		1 Bbl. Cement		1.50
		½ Bbl. Fire Clay	2.50	1.88
		4½ Bbls. Mortar	1.00	4.50
10/12.		3½ Days Mason	4.50	16.00
		3½ " Tender	3.00	9.67
		200 Brick	7.00	1.40
		7 Bbls. Portland	3.00	21.00
		½ Bbl. Cement	1.50	1.13
		2 Loads Sand	.70	1.40
13.		92,414 Brick, ½ Cement (Laid in Holyoke Warp Co.'s Stock House)	9.50	877.93
16.		Discount on 3 Months' Note		29.67
				<u>\$1,142.30</u>

[EXHIBIT 123.]

YARDS AT SOUTH HADLEY FALLS, MASS.
MILL WORK A SPECIALTY.

HOLYOKE, MASS., Oct. 31, 1898.

MR. CASPER RANGER

To D. J. LANDERS, DR.,
Mason, Contractor, and Brick Manufacturer.
OFFICE, 231 HIGH STREET.

Oct.	28/29.	To 7 Hours Mason		\$0.50	\$3.50
		7 " Tender		.35	2.45
		4½ Bbls. Portland	} Wash-stand, Bowker Barn	3.00	12.75
		3 " Cement		1.50	4.50
		1 Single Load Sand			.70
		1 Double " "			1.00
31.		Contract, National Blank Book Co.			15,655.00
		" Smith & White Mfg. Co.			6,122.00
		151,720 Brick, Cement, and Half Cement		9.50	1,441.34
		(Laid in addition to Franklin Paper Co.)			
					<u>\$23,243.24</u>
		<i>Credit.</i>			
		By 5,540 Old Brick, Franklin, @ \$4.00		\$22.16	
		1½ Tons Broken Stone, Blank Book, @ \$1.50		2.25	24.41
					<u>\$23,218.83</u>

PETITIONER'S PROPOSITION MODIFIED.

Mr. MATTHEWS. I understand Mr. Goulding wishes to have the ear of the Court for a few minutes while he answers the questions propounded to him at the hearing of Nov. 12, 1900.

Mr. GOULDING. May it please the Court, Mr. Matthews at a previous hearing presented to the Court and the petitioners certain questions in regard to their position on various questions that arose, and those questions are printed, but for the purpose of calling the Court's attention to them I will read them :

Before proceeding with the case for the respondent, counsel for the City request the Company to define its position upon the following points :—

1. Does the Company consent that the Commissioners may include property in the transfer and valuation not specifically described in the schedule filed Jan. 8, 1898, especially in the following particulars :—

(a) Additional land in connection with the electric light station.

(b) The fee in the land occupied by the tailrace.

2. Does the Company consent that the Commissioners may vary the terms of the lease of water power offered by the Company in its schedule of Jan. 8, 1898, especially in the following particulars :—

(a) In respect to the annual rent or charge for water.

(b) As to those days or portions of the year on which the water power will be shut off and the plant have to be run by steam.

(c) In respect to having water power to operate the electric light station as now used by the Company ; namely, whenever there is water in the canal, or throughout the year, including Sundays and holidays, with the exception of four or five days when the canal is empty.

(d) In respect to the use of water for condensing, free of charge.

(e) In respect to other conditions generally.

3. What signification, if any, does the Company attach to the difference in phraseology between so much of its offer as relates to the gas and electric light plants and so much of its offer as relates to the rent of water power, these expressions being respectively as follows : "The Company elects to sell . . . the whole of its gas plant, also the whole of the electric light plant," etc., and "The Company also offers and desires to sell by lease . . . one-half of 1 M.P. . . also 16 non-permanent 24-hour M.P.," etc.

The petitioner from the first has deemed some of these questions important, and upon the presentation of these questions by the counsel for the respondent, the petitioner has felt that they presented important questions on which the respondent had a

right to have some information and knowledge before they closed their case. I do not propose now to enter upon any questions involving the construction of the statute; that is to say, I do not propose to answer any abstract questions of law; the question, for instance, which has been raised, as to whether this Commission has any power or authority to vary the terms of the proposition contained in the schedule, which is the offer to sell provided by the statute. I do not at the present moment rise to commit myself to any proposition on that question one way or the other. It will be discussed finally, and the views of both sides will be presented.

The proposition here is what the company are willing to do, what proposition they are willing to make modifying their schedule, without regard to whether the Commission could modify it in the absence of any consent of the company. We have therefore considered this subject, the officers of the company have considered it fully, and are prepared to make a concrete proposition in writing, which has been elaborated and considered from every point of view from which we could consider it.

The company has also prepared a plan, showing how they are willing that this Commission should find on the question of what shall be sold on the one hand and bought on the other, as a plant. That work has been done by the officers of the company, and particularly by the President, Mr. Gross, who is familiar with the plan itself and with the proposition. It has been made under his direction, and the proposition has been drawn under his direction, upon full and repeated consultation with counsel. We thought that it was best to take sufficient time and to present what we are willing to do, reserving the abstract questions, if they arise, for a later discussion. The concrete proposition that we shall submit covers, I believe, all these inquiries, unless it is the letter "e" under the second subdivision, in respect to other conditions generally, which we of course do not understand it embraces. So far as it is embraced in our proposition it is answered; otherwise it is not. Also the third proposition, as to what signification the company attaches to the difference in phraseology between so much of its offer as relates to the gas and electric plant and so much of its offer as relates to the gas and water power—the expressions being given under the inquiry—

we have no answer to make to that at the present time. In order to present the proposition that we are willing to make, I shall call Mr. Gross as a witness, who has already been sworn, to state what the company are willing to do about that.

I ought to say that the schedule which was filed in January, 1898, was prepared by the then president of the company, who was himself an eminent and very able lawyer; that he was at that time laboring under a fatal illness which terminated his life a few weeks afterward; and this schedule was prepared evidently with some haste, and without any profound and extensive study of the statute, and I am informed that it was prepared without consultation with counsel. Although I was retained at the time, I had no consultation with the company for a considerable time after, and my brother Brooks likewise. That may explain, perhaps, some portions of that schedule, and may perhaps disarm to some degree the criticism that might be made upon it.

I have called it up now because my friends would like to know as early as possible, I suppose, what our position is on these questions, and because Mr. Gross would like to get home to Hartford this afternoon.

Mr. MATTHEWS. Before Mr. Gross gives the testimony which he is about to give, I assume that the rights of neither party are concluded by his appearance, as to the law on this question.

The CHAIRMAN. Certainly not.

Mr. MATTHEWS. I understand, with my brothers on the other side, that all questions of the legal power of the Commission to vary the company's offer as contained in the schedule, even with the consent of the company, are reserved for discussion at the close of the case.

The CHAIRMAN. Certainly.

CHARLES E. GROSS, *sworn*.*Direct examination by Mr. GOULDING.*

Q. Mr. Gross, your full name is— A. Charles E.

Q. Have you, Mr. Gross, considered the propositions, and has your company considered the propositions, that were submitted by Mr. Matthews recently? A. Yes, sir.

Q. Now, will you proceed in your own way to state what the company is willing to propose to the respondents, in view of those inquiries? A. The first question concerns additional real estate in connection with the electric light plant. The offer now made, as in lieu of the one which is contained in the schedules, adds something like 16,000 square feet to the description of the land as made in that offer, of which 16,000 square feet 6670 feet, if my memory serves me, is entirely free and in fee. The plan as offered originally commenced on the line of the passageway at the corner of the George R. Dickinson Paper Company, and then came northeasterly 250 feet and a fraction in the line parallel to the water line and 30 feet distant therefrom. Instead of taking that line we propose to go to the water line, as in some other conveyances, and to take the water line of the first level canal to the point opposite the point in the old plan, then coming 92 feet to the same point, then going 87.92 feet to this point.

The CHAIRMAN. "This point" is what?

The WITNESS. This line in the plan continued on 11 feet from this building, to 1 foot from that building—11 feet from the dynamo building and 1 foot from the steam engine room. We propose to go to that point, then go at right angles with this 52.67 feet.

Q. So far as you can, when you say "this," I wish you would use some phrase that can get on to the record.

The CHAIRMAN. Following this line. You have got that colored out so we won't miss that.

A. Thence southeasterly 52.67 feet in the colored line, thence at right angles to the last described line 103 feet to a point which is 6 feet from the boiler house, instead of 1 foot from the boiler house in the old plan. Thence again southeasterly 88 feet in the line at right angles with the last described line to a point. Thence

at an angle of 45 degrees, going southerly, 31.17 feet to a point. Thence southeasterly in a line parallel to the northerly line of the George R. Dickinson Paper Company's property, and 35 feet distant therefrom, 105.27 feet to the westerly line of a passageway on the westerly bank of the second level canal, which westerly line of the passageway is 40 feet northwesterly of the westerly line of the second level canal and parallel thereto. Thence southwesterly 35 feet to the northerly line of the George R. Dickinson Paper Company, and thence northwesterly in the line of the George R. Dickinson Paper Company 360 feet to the place of beginning.

We also propose to give, in addition thereto, in connection with the water power, the right to maintain, use and repair so much of the headgate as extends over on to our land on the north. Your Honors will see that this headgate, this little part, extends over; but in connection with this water right we give the right to use, maintain and repair so much of that headgate as extends over into our land. We also give the right to use, maintain and repair so much of the foundation of the northerly elevation of the wheel house as extends over northerly into other lands of the Holyoke Water Power Company. That foundation, after going down a certain distance, extends at an angle that broadens out and extends into the land of the Cabot mill property, and extends under the foundation for the southerly wall of that portion of the Cabot mill. It is therefore impossible to give a fee to the entire foundation wall of the wheel house, for that foundation wall extends under the southerly wall and foundation of the Cabot mill.

There are certain easements which we give also. We give an easement for light and air in the piece of land northwesterly of the testing flume and carpenter shop. It is described in the deed, and the northeasterly line is the extension of the northeasterly face of the carpenter shop building to the land hereby deeded. Also, for light and air, a piece of land between the boiler house and the carpenter shop and the chimney stack, described in the deed. Also the right for drainage in the drains as now laid in this property across adjoining land.

The CHAIRMAN. What property? Describe it. The right of drainage as appears upon the plan?

The WITNESS. Upon the plan, yes, sir, from manholes or openings easterly of the dynamo building and the steam engine room, and thence extending northeasterly across adjoining lands of the Holyoke Water Power Company.

The CHAIRMAN. These manholes and the drainage are on land—

The WITNESS. Offered in the new schedule. There are certain reservations and exceptions which we reserve and except. One is the right of passage in a passageway on the easterly bank of the first level canal. The second is a right to pass and re-pass on so much of the land described in the new schedule as lies between the boiler house and the chimney stack on the south and the carpenter shop on the north. The reason for making this last reservation is the following: In the basement of this carpenter shop is the testing flume shop, and there are doors—one door near the southwesterly limit of the building. In order to bring the carts properly to that door, and the necessary engines and so on to that doorway which I have last described, it is absolutely necessary, in order to utilize that building, that we should have the right to pass and re-pass over that portion of the land which is mentioned in the schedule as to be deeded to the city of Holyoke, between the boiler house and the carpenter shop.

In the original schedule the company reserved a right of way 37.95 feet, if my memory serves me, between the dynamo room and the wheel house. We propose to narrow that passageway up to 20 feet, the northerly line of the passageway to be 9 feet southwesterly from the southwesterly face of the wheel house, reserving to the Holyoke Water Power Company, its successors and assigns, the right to pass and re-pass over a passageway 20 feet in width, from the passageway adjoining the first level canal to its other property adjoining on the east.

We also reserve the ownership, as in all deeds, of the canal wall, for the protection of the canal. Also the ownership of the iron testing flume penstock, extending from the first level canal easterly to the other lands of the Holyoke Water Power Company. Also the gate and racks connected therewith. Also a water pipe 6 inches in diameter, extending from the water main now laid through said passageway easterly to other lands of the Holyoke Water Power Company.

We also give the right to use, for the discharge of water, the two tailraces leading from the property deeded easterly to the second level canal; reserving, however, the right to maintain, use and repair the present railroad tracks over said tailraces, and the right also to construct, use and operate other railroad tracks; and also the right to construct buildings and structures over said tailraces; provided, however, that in said construction we shall not abridge or curtail the reasonable opportunity of the city of Holyoke to repair at any time the tailraces. We also reserve the right to ourselves, and to the George R. Dickinson Paper Company, a division of the American Paper Company, to maintain, use and operate a railway substantially in the lines as now used, across the southerly corner of the property conveyed. There are several water rights also that we give, and as those have been very carefully prepared I should like the privilege of reading those from the offer rather than to state them.

The CHAIRMAN. All right, go ahead.

Q. Will you read this deed, or shall I or some of the rest of us relieve you of that? A. Just as you prefer, sir.

Mr. MATTHEWS. He wants to read the water grants.

Mr. GOULDING. You had better read the whole of it, though I don't know as it is necessary to give the description exactly.

Mr. MATTHEWS. Can't it all be put in the record?

Mr. GOULDING. Yes.

The WITNESS. I will read the description and ask the Commission, if they will, to follow it on the map.

The CHAIRMAN. Why don't you begin at the beginning?

Mr. GOULDING. My idea is to begin at the beginning and read it through. I think you will find that is as short a way as any.

The WITNESS. This indenture is intended as an offer in lieu of the indenture which appears in Volume 3 of the evidence, on pages 216 to 220 inclusive, and it is to be taken also in connection with the proposals which are printed in the testimony. Those proposals are to remain the same and are not changed.

The witness read, omitting the descriptions of real estate, the following paper:

[EXHIBIT 119.]

AN INDENTURE made this day of
A.D. by and between the Holyoke Water Power Com-
pany, a Corporation duly established and doing business at
Holyoke, in the County of Hampden and Commonwealth of
Massachusetts, of the one part, and the City of Holyoke, a mu-
nicipal Corporation in said County, of the other part :—

Whereas the said City of Holyoke has agreed to purchase of
the said Holyoke Water Power Company a certain parcel of
land, with the buildings, machinery, and fixtures thereon, to-
gether with certain water rights as hereinafter and in the an-
nexed proposals described, which proposals with all the terms,
conditions, agreements, and other matters therein contained,
are hereby adopted by the parties and made a part of this In-
denture, excepting always the Eighteenth Article therein con-
tained, which it is agreed shall make no part of this Indenture ;
and also that the grantors shall not be obliged to reserve the
full amount of rent specified in the Fifth Article of said Pro-
posals, on sales or leases of mill-powers situated on the lower
level and canals.

Now, Therefore, the said Holyoke Water Power Company, in
consideration of dollars and other valuable
considerations paid to it by the said City of Holyoke, the re-
ceipt whereof is hereby acknowledged, and of the rent herein-
after reserved, and of the other agreements of said City of
Holyoke, does hereby grant, bargain, sell, and convey unto the
said City of Holyoke a certain parcel of land, with the build-
ings thereon, situated in said Holyoke, bounded and described
as follows, viz. :—

Beginning at the point of intersection of the northerly line
of land of the George R. Dickinson Paper Company Division of
the American Writing Paper Company with the easterly water
line of the first level canal (which point is three hundred (300)
feet northeasterly from the point of intersection of said easterly
water line as produced with the northerly line of Sargeant
Street produced northwesterly to meet the same), thence north-
easterly on said easterly water line of said first level canal two

hundred and fifty and fifty-five one-hundredths (250.55) feet to a point; thence southeasterly at a right angle to said easterly water line ninety-two (92) feet to a point; thence southwesterly at a right angle to the last-described line and parallel with said easterly water line eighty-seven and ninety-two one-hundredths (87.92) feet; thence southeasterly at a right angle to the last-described line fifty-two and sixty-seven one-hundredths (52.67) feet; thence southwesterly and parallel with said easterly water line one hundred and three (103) feet; thence southeasterly at a right angle to the last described line eighty-eight (88) feet; thence southerly at an angle of forty-five degrees thirty-one and seventeen one-hundredths (31.17) feet to a line which, when drawn southeasterly, shall be parallel to and thirty-five (35) feet distant from the northerly line of land of the George R. Dickinson Paper Company Division of the American Writing Paper Company, adjoining on the south the land hereby conveyed; thence again southeasterly in said line parallel to and thirty-five (35) feet distant from said northerly line of land of said Paper Company one hundred and five and twenty-seven one-hundredths (105.27) feet to the westerly line of a passageway on the west bank of the second level canal, which westerly line of said passageway is parallel to and forty (40) feet distant northwesterly from the westerly water line of the second level canal; thence southwesterly in said westerly line of said last-described passageway thirty-five (35) feet to the northerly line of said land of the George R. Dickinson Paper Company Division of the American Writing Paper Company; thence northwesterly in the line of said land of said Paper Company three hundred and sixty (360) feet, more or less, to the place of beginning, containing forty-one thousand two hundred and eighty-nine and twenty-five one-hundredths (41,289.25) square feet, more or less, together with the buildings thereon, the wheel pit, race ways, iron flumes, and the iron penstocks (excepting one certain iron penstock as hereinafter reserved) as now situated in and upon said premises.

Together also with the following rights and easements in, through, and over other lands of said grantor adjoining the premises above described, to wit:—

First. The right to maintain and use so much of the northerly foundation wall of the wheel house (situated on the above-described premises) as extends northerly into or upon the adjoining lands of said grantor for the purpose of sustaining thereon the northerly wall of said wheel house and of any building which may be erected in its place.

Second. The right and easement for purposes of light and air as appurtenant to the adjoining premises herein conveyed in and to two portions of adjoining land of said grantor bounded and described as follows:—

First piece is bounded northwesterly and southwesterly by portions of the land above described; southeasterly in part by the Testing Flume and Carpenter Shop of said grantor as now constructed, and in part by the piece of land hereinafter next described; and northeasterly by a line which shall be drawn in the line of the northeasterly face of said Testing Flume and Carpenter Shop and produced northwesterly to the land hereby conveyed to said grantee.

The second piece is bounded northwesterly by the piece of land last described; southwesterly and westerly by a portion of the land conveyed hereby to said grantee; southeasterly by a line which shall be drawn in the line of the southeasterly face of said Testing Flume and Carpenter Shop, and produced southwesterly to the land hereby conveyed to said grantee; and northeasterly by said Testing Flume and Carpenter Shop as now constructed; said right and easement being granted for the purpose of light and air as aforesaid, to the end that no building shall be erected on any portion of said two pieces of land (in this paragraph described) above the present level or surface of said pieces of land respectively.

Third. The right to drain the premises hereby conveyed to said grantee, as at present, through any and all of the cement sewers as now laid, extending from the premises hereby conveyed through and across adjoining lands of the said grantor, and also the right to repair and renew said sewers, and to that end, whenever necessary, to enter upon the land of said grantor for that purpose.

Fourth. The right as appurtenant to the land hereby con-

veyed to pass and repass in common with said grantor, its successors, assigns, and other grantees and licensees, on foot and with teams from the land hereby conveyed to Cabot Street over and along the passageway as now used and existing extending along the easterly bank of the first level canal, and also over and along the passageway as now used and existing, extending along the westerly bank of the second level canal to Cabot Street.

The Holyoke Water Power Company expressly reserves to itself, its successors, grantees, and assigns, the following property, rights, and easements in and to the premises hereinbefore described, and this conveyance is made subject to said reservations and to the exceptions and restrictions hereinafter contained, to wit:—

First. The walls of the first level canal, so far as they are situated upon the premises above described, are reserved and are to remain the property of the grantor for the protection of the canal bank.

Second. Excepting and reserving a right of way, on foot and with teams, as appurtenant to the lands adjoining said passageway, in common with said grantee, to said grantor, its successors and assigns, and to the George R. Dickinson Paper Company and the American Writing Paper Company on and over the passageway extending along the easterly bank of the first level canal as now used, the easterly line of which passageway is parallel to and thirty (30) feet southeasterly from the easterly water line of said canal.

Third. That no building or any part thereof shall ever be erected on or over said passageway last described, and said grantor for itself and its successors and assigns reserves and excepts from this conveyance the right to lay down and to authorize others to lay down in and along said passageway a railroad and tracks, and to use and to grant to others the right to use the same for the benefit of the grantor, the grantee, and any and all other persons, corporations, or lessees, who now have or who shall hereafter acquire the right to draw and use water from the canals of the grantor or to use and occupy any lands now owned by it.

The right is also reserved and excepted for the purpose of using and connecting with any gas and water mains and pipes now or hereafter laid in said passageway last described, together with the right to enter upon, lay down, maintain, and repair the necessary connecting pipes.

Fourth. The grantor reserves and excepts from this conveyance the ownership of the iron testing flume penstock, extending from the first level canal across and through a portion of the land above described to other lands of the grantor situated easterly thereof, together with the ownership of the head gate and racks connected with said flume penstock, and also of a six-inch iron water pipe, extending from the water main, now laid in said passageway to said other lands of grantor, together with the exclusive rights to use, maintain, repair, and renew said penstock, gate, racks and water pipes, with the right to enter upon said premises for the purpose of repairing and renewing the same whenever necessary.

Fifth. The grantor also reserves and excepts from this conveyance, for itself, its successors and assigns, a right of way twenty (20) feet wide, extending from said passageway last described in a southeasterly direction to the adjoining lands of said grantor, with the right in common with said grantee to pass and repass over the same on foot and with teams, the northern line of which right of way, as extended across said lands hereby conveyed, shall be parallel to and nine feet southwesterly from the southwesterly face of the wheel house now standing on said premises.

Sixth. Reserving and excepting also as appurtenant to the adjoining lands of said grantor the right to pass and repass, at the present grades, on foot and with teams over and along so much of the land hereby conveyed as is situated northeasterly of the boiler house and chimney stack now standing on said land hereby conveyed, and southwesterly of the Testing Flume and Carpenter Shop standing on the land of said grantor.

Seventh. Excepting and reserving also to the grantor, its successors and assigns, and to the said George R. Dickinson Paper Company Division of the American Writing Paper Company the right to use, maintain, and repair a railroad track, sub-

stantially along the line as now constructed, across the southerly corner of the land hereby conveyed.

Together with the right appurtenant to the land aforesaid to take and use sixteen non-permanent 24-hour mill-powers, as hereinafter limited and described, from the grantor's Upper Level Canal, whenever, in the opinion of the Hydraulic Engineer of the grantor or of such other officer or agent of the grantor as may have the matter in charge, there is sufficient water flowing in the Connecticut River per second to permit such use in excess of the sum of the four quantities named hereafter, viz:—

1. The quantity of water per second needed to supply the lawful demands of all persons or corporations now having the right to use said water from the said Upper Level Canal (including those drawing from the South Hadley Canal) heretofore made or granted by said Holyoke Water Power Company or those under whom it claims, and now on record in the Hampden or Hampshire County Registry of Deeds.

2. The quantity of water per second needed to supply the water powers heretofore appropriated by the grantor for its own use and the use of its tenants, and its and their successors and assigns, on the Upper Level, being a quantity of water per second which would constitute seventeen mill-powers on that Level if used every working day in the year.

3. The quantity of water per second which may be needed to supply the lawful demands of all persons or corporations now having the right or agreements for rights to use said water from the second or third levels, heretofore made or granted by said Holyoke Water Power Company or those under whom it claims, which may be in excess at any time of the quantities supplied to said lower levels by the mills in operation on said Upper Level.

4. The quantity of water per second equal to fifty per centum of the sum of the three quantities already named as granted or appropriated.

A non-permanent 24-hour mill-power, as conveyed hereby, being the right to take from the grantor's said canal during the 24 hours of the day, but excluding Sundays and legal holidays,

the same quantity of water per second that might be drawn per second under a grant of a mill-power as defined in the accompanying proposals, subject, however, to the limitations and restrictions set forth in this Indenture and in said Proposals.

And in connection with the use of said mill-powers and to be used only therewith, the grantor gives to said grantee, its successors and assigns, the right to the exclusive use (with the right to maintain and repair) of so much of the head gate now used in connection with the wheel house on said premises hereby conveyed as extends over and is situated upon the land of the grantor adjoining on the north the premises hereby conveyed.

TOGETHER also with the right, in connection with said mill-powers, to the exclusive use for the discharge of water (with the right to maintain and repair) of those portions of the tail-races which are now constructed, leading from the premises hereby conveyed in a southeasterly direction, through the lands of the grantor to their place of discharge into the second level canal; reserving, however, to said grantor, its successors and assigns, the right to maintain, operate, and use the present railroad tracks over and across said tailraces, and also the right to construct, operate, and use other railroad tracks, and to build, occupy, and use buildings and other structures over and across said tailraces, and to sustain the same upon the walls and piers thereof, provided, however, that all such tracks, buildings, and structures shall be so constructed, if placed over said tailraces or either of them, as not to restrict or impair the rights of said grantee to use, maintain and repair said tailraces.

TOGETHER also with the right as appurtenant to the land aforesaid to take from the first level canal during any period of time in which said grantee shall be restricted by said grantor in the use of said non-permanent mill-powers above granted in accordance with the provisions of said Proposals and of this Indenture (except during the times when the water in said canal shall have been drawn down temporarily for repairs or other purposes) a quantity of water, not exceeding, however, one-quarter of a 24-hour mill-power as defined in the accompanying proposals, to be used only upon the premises hereby

conveyed, during the periods of such restrictions, for steam condensing * and feed water purposes in connection with a condensing engine operated for power purposes in connection with the generation of electricity; † and also with the right in connection with said mill-powers to take water at all times from the tailraces, located on the premises hereby conveyed, for said steam-condensing and feed-water purposes, provided that, in each of the above cases, the water so used shall be returned substantially in equal quantity to said tailraces, for discharge into the second level canal.

And the grantor further agrees to and with said grantee that in case it shall hereafter become necessary, during any period of time in which said grantee shall be restricted in the use of said non-permanent mill-powers as aforesaid, to draw water from the first level canal into the second level canal for the purpose of balancing said canals or for other purposes (said water being that which it would otherwise draw through its overflows), it will, so far as it has the right so to do, draw said water, not exceeding, however, in quantity sixteen mill-powers, through the wheels of the grantee in the wheel house situated on the land above conveyed, provided, however, that the drawing of said water shall be under the control of the Hydraulic Engineer of said grantor, or such other officer or agent of the grantor as may have the matter in charge; the intent hereof being to give to said grantee the right during such periods of restrictions to enjoy the use of such water which shall be required to be drawn into the second level canal as aforesaid to the same extent as the grantor now has the right.

But this right and agreement is upon this express condition, that during the time when said grantee shall enjoy the use of said water it shall not be entitled to any rebate or rebates as hereinafter provided on account of any restriction upon, or deprivation of, the use of said non-permanent mill-powers as hereinafter provided.

And the grantor further agrees to give and hereby does give (in connection with said mill-powers) to said grantee, its suc-

* The words, "and feed water," were inserted by Mr. Gross in his testimony on Wednesday, December 5.

† The rest of this paragraph was added in the testimony of Mr. Gross, Wednesday, December 5, and is printed above for convenience, by consent of counsel.

cessors and assigns, so far as it has the right so to do, the right to draw from said first level canal during Sundays and legal holidays through the wheels on said premises a quantity of water equal to sixteen mill-powers, except during times when the water in said first, second, or third level canals has been or shall be drawn down for repairs or other purposes which may be necessary in the opinion of the Hydraulic Engineer of the grantor, or of such other officer or agent of the grantor as may have the matter in charge; * such repairs or other purposes to include both those of the grantor and also those of its grantees and lessees.

† And said grantor further agrees that whenever on Sundays or legal holidays (except at the annual shut-down) it shall draw off the water in said first level canal for any such repairs or other purposes, that, so far as it can be reasonably done, in the opinion of the hydraulic engineer of said grantor, or of such other officer or agent of the grantor as may have the matter in charge, having regard to the character and extent of the work to be done, said water shall be drawn off only in or during that portion of said respective days commencing at thirty minutes before sunrise and ending thirty minutes before sunset, at which latter time the head-gates of the canal shall, under the same conditions, be opened.

The grantor reserves to itself the right, in addition to the other reservations in this Indenture contained, and the said grantee granting such right to the grantor, its successors and assigns, to enter upon the premises above described at any and at all times for the purpose of shutting off the water, and to shut off the water the use of which is granted under the name of sixteen non-permanent 24-hour mill-powers and the additional water rights hereby granted, whenever, in the opinion of the Hydraulic Engineer or of such other officer or agent aforesaid, there is not sufficient water flowing in said river to permit its use according to the terms of this grant.

It being understood and agreed hereby that, whenever the water is shut off as aforesaid, the grantee shall not open or suffer

*The rest of this paragraph, together with the whole of the following paragraph, marked (†), was added in the testimony of Mr. Gross, Wednesday, December 5, and is printed above for convenience, by consent of counsel.

the gates or other appurtenances which shut off the water to be again opened without the consent of the grantor or its proper agent as aforesaid in writing first obtained.

If said gates or other appurtenances for shutting off the water are opened or suffered to be opened by the grantee, its servants or agents, during the time they should be shut as hereinbefore provided, the grantee shall pay to the grantor two hundred and fifty dollars (\$250) for each occasion when said gates or other appurtenances are so opened or suffered to be opened; it being hereby agreed by the parties hereto that said sum is the amount to be paid as the liquidated damages for each opening or suffering to be open of said gates or appurtenances as aforesaid. But said sum shall be taken to be the damage for the opening or suffering to be open 'said gates or other appurtenances only; and the grantor shall have the right, in addition thereto, to recover from the grantee, its successors and assigns, any and all damages which may be occasioned to the grantor or its property or for which said grantor may be made liable by said unlawful opening or suffering to be opened of said gates or other appurtenances.

And the said grantor may also lock and seal the said gates or other appurtenances whenever it shuts off the water.

TO HAVE AND TO HOLD the above-granted premises and water rights thereto appurtenant to the said City of Holyoke, its successors and assigns, to its and their use and behoof forever, subject, however, to the agreements, terms, conditions, and all other matters and things in this Indenture and in said annexed Proposals set forth as obligatory upon the grantee, its successors and assigns, and among other things yielding and paying to the said Holyoke Water Power Company, and to its successors and assigns forever, as annual rent for the sixteen non-permanent 24-hour mill-powers above granted, including the additional water rights hereinbefore conditionally given as supplemental to said sixteen non-permanent powers as aforesaid, the sum of twenty-four thousand dollars in United States currency, payable in equal semi-annual payments; the first payment of Twelve Thousand Dollars in United States currency to be made on the day of

A.D. , and a like payment to be made every

six months thereafter, viz., on the day of
and of of every year thereafter forever.

* But it is agreed hereby that the grantor will rebate or pay back to the grantee at each and every semi-annual payment, for each day, and a proportional amount for fractions of a day, during which said grantee has been deprived of the use of said sixteen 24-hour non-permanent mill-powers, in the manner above recited, during the course of the six months then last past, the sum of Eighty Dollars in United States currency, provided that during said respective periods of time said grantee has not received the use of any water drawn by said grantor through the wheels of said grantee from the first level canal into said second level canal, as hereinbefore provided.

And the said Holyoke Water Power Company for itself, its successors and assigns, covenants with the said City of Holyoke, its successors and assigns, that the said Holyoke Water Power Company is lawfully seized in fee of the above-granted land; that it has good right to sell and convey the same as aforesaid; that the same is free of all encumbrances; and that it will warrant and defend the same against the lawful claims and demands of all persons; and that said water rights hereby granted shall be maintained as herein proposed and provided forever, except as hereinbefore provided.

And this grant is made upon the express condition and limitation that the present stockholders, or any persons or corporations that may hereafter be or become stockholders of or in the said Holyoke Water Power Company, shall not be holden, bound, or liable upon or for any of the covenants, stipulations, conditions, or agreements herein contained, or any thereof, or for any breach, non-fulfilment, or non-observance thereof, or for any damage or loss which may be sustained or incurred by reason of such breach, non-fulfilment, or non-observance; but, therefore, the said Holyoke Water Power Company in its Corporate capacity, and not otherwise, shall alone be holden obligated, bound, and obliged.

The Holyoke Water Power Company hereby reserves unto itself, its successors and assigns, the right, at all reasonable

* This paragraph is printed as subsequently corrected by Mr. Gross, page 291. For original wording, see page 283.

times, to enter into and upon the demised premises for the purpose of repairing the dams, canals, watercourses, water-ways, or other premises which they are bound to keep in repair, or of removing the obstructions therein, as well as to measure and compare the quantity of water used and wasted or suffered to waste with the quantity hereby granted.

And the said City of Holyoke for itself, its successors and assigns, hereby covenants with the said Holyoke Water Power Company, its successors and assigns, that it and they will keep, fulfil, and observe all and singular the covenants, stipulations, and conditions herein contained or referred to on its or their part to be kept, performed, and fulfilled, and that it will not, nor shall its successors and assigns at any time hereafter, or for any cause or reason, make or suffer or cause to be made, on any person or persons who now are or may hereafter be stockholder or stockholders of or in the said Holyoke Water Power Company, any claim or demand for or by reason of any breach of the covenants, stipulations, or agreements herein contained or referred to on the part of the said Holyoke Water Power Company, but will look and have recourse only to the said Holyoke Water Power Company in its Corporate capacity and not otherwise ; the present and future stockholders of the said Holyoke Water Power Company being hereby forever relieved, exempted, and discharged from any and all individual and personal liability or responsibility upon or for any of the covenants, stipulations, and agreements herein contained or referred to ; and that it, its successors and assigns, will pay or cause to be paid the rent hereinbefore reserved to be paid at the times and in the manner hereinbefore mentioned.

And the said parties hereto mutually covenant that they will respectively keep, observe, and fulfil all the terms, covenants, conditions, and other matters and things in the said annexed proposals set forth as respectively obligatory upon them or their respective heirs, successors and assigns, always excepting said Eighteenth Article of said proposals, and the obligations in Article V. to reserve the rent therein specified for mill-powers, situated on the lower level and canals.

IN WITNESS WHEREOF, etc., etc.

The Chairman asked the witness to explain the rebate clause. The WITNESS. In that provision of the indenture we say:

"But it is agreed hereby, that the grantor will rebate or pay back to the grantee at each and every semi-annual payment, for each day, and a proportional amount for fractions of a day, during which said grantee has been deprived of the use of said sixteen 24 hour non-permanent mill powers in the manner above recited, provided that during said times said grantee has not received the use of any water drawn by said grantor through the wheels of said grantee from the first level canal into said second level canal, as hereinbefore provided, during the course of the six months then last past, the sum of eighty dollars in United States currency." *

The object of that is this: We give them a right to draw water whenever there is water which we would be obliged to draw through our overflows from the first level canal into the second level canal; we allow them to draw it through their wheels if they want to.

Mr. GOULDING. We agree to draw it.

The WITNESS. We agree to draw it for their benefit through their wheels. They have the option to say whether they will take their rebate of \$5 per mill power per day, or whether they will take such water as we are able to give them. For instance, in the summer time they may not need 16 mill powers; 10 mill powers may be sufficient for their uses. We may be able to give them 10 mill powers and not 16 mill powers. We offer them what we have—10 mill powers. They have the option to say then whether we shall draw the 10 mill powers through their wheels for their benefit, or whether they will take their rebate. They should not, of course, have both.

By the CHAIRMAN.

Q. How much would be the rebate, then, at 10? A. There would not be any, sir, if they have water enough furnished them. If they have water enough furnished them, Judge, to supply all of their needs, they would not have any rebate. That is the intent of this instrument. If 10 mill powers furnishes all of the power that they need during the periods of restriction, they can

* The above is the original wording of the paragraph; the corrected form appears in the exhibit as printed in full, page 281.

say to us, "Draw that water through the wheels and we will take that water in lieu of our rebate"; or they can say, "10 mill powers are not sufficient for us; we prefer to run by steam; you need not give us the 10 mill powers which you offer us; we will take our rebate."

Q. How much would that be, then, if they had 10 mill powers—\$50? A. No, sir, they would have \$80; they would have their full rebate.

Mr. BROOKS. I would like to put in this document which Mr. Gross has read and have it marked.

The paper was marked "Ex. 119, F. H. B."

The CHAIRMAN. I do not want to appear stupid on this nor ask for any lengthy examination of it now, but that clause that I called your attention to—let me read it:

"But it is agreed hereby that the grantor will rebate or pay back to the grantee at each and every semi-annual payment, for each day, and a proportional amount for fractions of a day, during which said grantee has been deprived of the use of said sixteen 24 hour non-permanent mill powers"—

I do not see as there is any option on the part of the grantee to say or say not.

The WITNESS. No, sir.

Mr. GOULDING. Certainly not. It is something else we are talking about; it is this drawing of the balance water through their wheels.

The WITNESS. May I explain it? Is it proper for me to explain?

Mr. GREEN. I would like to hear an explanation of it all, for I am in the same position as the Chairman. The last clause of it is blind.

The CHAIRMAN. I wish you would. I would like to have an explanation, if it is not objected to, of this whole scheme from you.

The WITNESS. Very well, I will go back and explain it.

The CHAIRMAN. You need not read the whole paper.

The WITNESS. No, sir, but I will take the different points. "The rights appurtenant." The rights which we give as appurtenant—light and air—I think commend themselves without explanation.

The CHAIRMAN. I understand that.

The WITNESS. The rights that we reserve perhaps I should explain. It is necessary for the absolute protection of the canal for its uses that we should reserve the canal wall and the ownership thereof. That, I think, needs no further explanation.

The second reservation is simply a right of way to ourselves and our successors and to the George R. Dickinson Paper Company Division of the American Writing Paper Company over and along the passageway on the easterly bank of the first level canal. They are abutting owners and should have that right.

The third reserves the right to lay down railway tracks. Nearly, perhaps half, of the passageways on the easterly bank of the first level canal and the westerly bank of the second level canal, have railways for the use of the mill-owners.

Mr. TURNER. Should not the word "railroad" be used instead of "railway"? There is getting to be a distinction in this state between the use of "railroad" and "railway," "railway" being applied to street railways.

The WITNESS. Thank you, Mr. Turner, I did not know that.

Mr. MATTHEWS. Defined by statute.

The WITNESS. I will change the word "railway" to "railroad," and I will do that, with your permission, before I give it to the stenographer.

By Mr. MATTHEWS.

Q. You mean steam railroads? A. Yes, sir. The Boston & Maine and New York, New Haven & Hartford have railroad tracks along all our passageways. Along this passageway there is not at present any railroad, and I desire to reserve that right so that it may be used the same as other passageways are.

The CHAIRMAN. I am not very much troubled, Mr. Gross, about anything but—

The WITNESS. The water rights?

The CHAIRMAN. Water rights; that is all that I care for.

The WITNESS. Very well, sir; I will pass, then, to the water rights.

The CHAIRMAN. You need not do that unless you are prepared.

The WITNESS. I am, sir—as fully prepared as I perhaps ever will be.

So far as the headgate is concerned, we reserve the right to the flume. That flume—testing flume—is for the furnishing of water to the testing flume shop, and is only used for that purpose and for no other purpose. There is no connection of that whatever with any other building, and it is only used for the testing flume shop.

I pass, then, to the discussion of the water rights. The 16 mill powers which are granted are what we call non-permanent mill powers. There are certain times when there will be no water in the canals, judging from past experiences, to furnish to the lessees of non-permanent power. Then we shut their gates. And while they are deprived of that water we make them a rebate of \$5 per day per mill power.

Mr. BROOKS. That makes the \$1,500 per year.

The WITNESS. That explains the rebate. There will be perhaps one day, perhaps five days, and maybe more in a year. It depends entirely upon the condition of water in the Connecticut River. We may have to shut the headgates two days; we may not have to shut them for three or four years, as we did not until one day last year. There were three years, I think, that we did not have to shut the headgates at all. There may be a time when there will be no water in the canal that can be furnished to the lessees of non-permanent power, and it is right, therefore, and the leases provide, that whenever they are deprived of that water they shall be allowed a rebate of \$5 per mill power during those days. That explains the rebate.

Now to pass to the first provision as to water:

“TOGETHER also with the right as appurtenant to the land aforesaid to take from the first level canal during any period of time in which said grantee shall be restricted by said grantor in the use of said non-permanent mill powers above granted in accordance with the provisions of said Proposals and of this Indenture (except during the times when the water in said canal shall have been drawn down temporarily for repairs or other purposes) a quantity of water, not exceeding, however, one quarter of a twenty-four hour mill power as defined in the accompanying proposals, to be used only upon the premises hereby conveyed, during the periods of such restrictions, for steam condensing* purposes in connection with a

* The words “and feed water” were subsequently inserted.

condensing engine operated for power purposes in connection with the generation of electricity.”

That is in answer to the direct inquiry of the gentlemen, as I understand it, with reference to our furnishing water for condensing purposes, and the intent of that is to give them the right to take from the canal if there is water there—to take water from the first level canal if there is water there for condensing purposes during the periods of time when they do not have the 16 non-permanent mill powers furnished. When the water is shut off they can then take this water for condensing purposes. If they are using the water power there will be no occasion to run their engines. That clause then relates simply to the privilege of the grantee taking from the first level canal, when there is water there, for condensing purposes during periods of time when they are deprived of the 16 non-permanent mill powers.

I pass then to the next :

“And the grantor further agrees to and with said grantee that in case it shall hereafter become necessary, during any period of time in which said grantee shall be restricted in the use of said non-permanent mill-powers as aforesaid, to draw water from the first level canal into the second level canal for the purpose of balancing said canals or for other purposes, (said water being that which it would otherwise draw through its overflows) it will, so far as it has the right so to do, draw said water, not exceeding, however, in quantity sixteen mill-powers, through the wheels of the grantee in the wheel house situated on the land above conveyed. * * * *”

The object of that is this: If your Honors will remember the four quantities that we except in defining non-permanent power, there is a provision that we except so much water as is required to be furnished from the first level to the second level canal for the purposes of satisfying the rights of the grantees on the second level canal. There may be times when the water on the first level canal is not being sufficiently used through the raceways to furnish sufficient water to the lessees on the second level canal, and that provision is in order to treat all of the lessees on the three canals equitably and properly, all being treated alike. That water which we have to draw in such cases from the first level canal to the second level canal is ordinarily drawn through what

we call "overflows," and does not pass through any wheel. We agree, however, that whenever it is necessary to draw any such water from the first level canal into the second level canal, either for the purpose of balancing that canal or for any other purpose under our leases, that we will at the pleasure of the grantee draw that water not exceeding 16 mill powers through their wheels, they having the use of it. Of course, the water must pass from the first level canal to the second. If we don't draw it through their wheels, we would draw it through our overflows. We have in the past on such occasions drawn that water through our own wheels at the electric light station, and we have done that with the assent of the other mill owners on the first level canal, that is, they have recognized, as we understand, our right so to do. So far as we have the right to do it we give them the same right, that whenever that water has to be drawn, we will, at their pleasure, draw it through their wheels from the first level canal into the second level canal, and then they will have the use of that water during those periods of restriction.

The next clause is with reference to Sundays and holidays; the next clause relates to Sundays and holidays. There is a provision in nearly every lease, certainly in all leases for a long period of time, which does not give to the lessees the right to draw the water on Sundays or legal holidays. Those days have been reserved by the Holyoke Water Power Company for the purposes of making repairs, necessary repairs, from time to time, in the canals, and during those days from time to time the water has been drawn off, so that in nearly every lease—in fact, in all leases except the very earliest leases the right has been reserved through that provision that we did not give to the lessees the right to draw the water on Sundays and legal holidays, but we have used that water on Sundays, Sunday nights, for the purposes of the electric light station, and therefore we have added this clause giving them the right, so far as we have the right so to do, to draw the same amount of water from the first level canal, not confining it to non-permanent power, but allowing them to draw the water, if there is any water there, on Sundays and legal holidays. If there is not any water there, they will not, of course, have the right to draw it. In other words, we don't guarantee that there shall be water there, because we have to at times make repairs, and in order to make those repairs, to draw off the water.

The CHAIRMAN. Let me call your attention to the next clause, Mr. Gross.

The WITNESS. The next provision that I want to call your Honors' attention to is the consideration; the amount of the consideration is not changed. There is a provision in all of the leases for permanent power that we never shall grant any right in the permanent power at a less rental proportionately than we have charged them. It is impossible to compute accurately the amount of water that we do give in this lease to the city of Holyoke, of permanent water, and therefore it is impossible to compute accurately the rental therefor; it can only be estimated. We have the right, however, to sell non-permanent power at any price over a minimum. This consideration which remains the same, of \$24,000, then includes, first, so much consideration or rental for the permanent power as they take, and by so much as that amounts to, by so much is the rental price for the 16 non-permanent power diminished. The gross consideration for all of the powers remains the same, but the consideration includes, first, so much as we are obliged by the terms of our other leases to charge for the rights for permanent power which we give. Whatever that amounts to we cannot tell without knowing just how much you are going to draw and when you are going to draw it, but by so much the price for the non-permanent rental will be diminished. The total will be the same.

I come now to the clause to which your Chairman has called my attention.

By Mr. GOULDING.

Q. You refer to the permanent power that you grant the city?

A. Yes, sir; there is a restriction—

Q. What? A. There is a restriction upon us as to the price for permanent power.

Q. It may not be as well understood by everybody as by you and me, perhaps. Do I understand, or are we to understand that the permanent power granted to the city relates to the Sunday water? A. In part.

Q. And in part to the condensing? A. In part.

Q. Now, is there any other element that you call permanent? A. The right to draw the water from the first level to the second level through the wheels of the city of Holyoke.

Q. That you treat as a permanent? A. That may be permanent power. Now, there is a restriction upon us as to the price at which we may lease that permanent power. We cannot tell the amount of water that will be drawn, because we don't know the number of occasions on which it will be drawn, but this gross consideration of \$24,000 of rental per year is to include, first, that rental for permanent power, and, second, the balance that remains will be for the 16 non-permanent powers. That is in order to give to the city of Holyoke the rights which are specifically set forth. I come now to the clause to which your Chairman has called my attention, and with your permission I would like to read it once more:

"But it is agreed hereby, that the grantor will rebate or pay back to the grantee at each and every semi-annual payment, for each day, and a proportional amount for fractions of a day, during which said grantee has been deprived of the use of said sixteen 24 hour non-permanent mill powers, in the manner above recited."

To that point, your Honors, the language is the same as in all of our leases, and the same as in the form of indenture printed in Volume III. We have, in addition to the non-permanent power, now given them the right under certain conditions to take permanent power at their option. They then will have the right to say whether they will rest on their right to non-permanent power, or whether they will take in addition thereto permanent power. Certainly if they take the permanent power, we say they should not have their rebate. They can either have their rebate or the permanent power which we offer them, and therefore we have added: "provided, that during said times said grantee has not received the use of any water drawn by said grantor through the wheels of said grantee from the first level canal into said second level canal, as hereinbefore provided."

The CHAIRMAN. I understand you now.

Q. There may be a question, may there not, as to clearness, whether this "during the course of the six months" should not follow directly the "sixteen 24 hour non-permanent mill powers," and switch around a little the phraseology of the lines that relate to the water that you draw through the wheels, the balance of that provision? A. I can see that it would read easier, un-

less you make the clause commencing with the word "provided" and ending "as hereinbefore provided" parenthetical.

Mr. GOULDING. Of course there is no doubt what we mean.

Mr. GREEN. That is what has been bothering me. Now, as I understand you, that is not a modification of the latter part?

The WITNESS. It goes up, Mr. Green, to the words—

Mr. MATTHEWS. "In the manner above recited"?

The WITNESS. "In the manner above recited." I think it would be better to have it go in there, and I will have it put in there.

Mr. BROOKS. Will you have that changed?

Mr. GREEN. I see; I see. I thought it meant if we had used any what you call permanent power during the six months we could not get any rebate, even though we used it but for a day.

The WITNESS. I will change it.

Mr. GOULDING. Then you would probably provide said abatement shall not take place on any days on which this other water is drawn.

The WITNESS. I will change those, and submit them to you before I send them to the stenographer.

The CHAIRMAN. Excuse me if I make suggestions; they are only individual and may not amount to anything, but in glancing this over I see frequently the words, "Whenever in the opinion of the Hydraulic Engineer"—aren't you leaving a good deal to his determination or his discretion?

Mr. GOULDING. It is so in all the leases, I think. After consideration we would be of the opinion, or the Company are of the opinion that it would be impossible to run it in any other way. It has got to be left to the opinion of the hydraulic engineer, and it is presumed to be exercised fairly. I believe I have no other questions to ask. If there is anything you would like to add, please do so, and perhaps Mr. Matthews and Mr. Green would like to ask you some questions.

Cross-examination by Mr. MATTHEWS.

Q. Mr. Gross, you have studied this problem out, I take it?
A. I have studied it somewhat, sir.

Q. With a view to answering the questions which were propounded by the city? A. Yes, sir.

Q. And with a view to familiarize yourself with the hydraulic situation in Holyoke? A. Yes, sir.

Q. Have you got that map, Mr. Gross? A. (Turning to the Commissioners.) May I take that map?

Q. Mr. Gross, how much available building land do you now offer to the city of Holyoke, land free from restrictions, rights of way or other encumbrances which would prevent the use of it for building? A. 6670 square feet, and a fraction.

Q. I think you misunderstand my question, don't you? That sixty-six hundred odd feet was the additional land? A. No, sir.

Q. That you offered? A. No, sir; the 15,000 square feet, 16,000 nearly are added to our last total, of which 6,670 are entirely unoccupied and free and can be built upon.

Q. That is what I thought you meant, but that is not what I had in mind. A. Pardon me; I did not understand your question.

Q. I thought you misunderstood the question. What is the total area of the land you now offer? I don't mean your additional offer, but the total amount you offer to the city of Holyoke? A. Allow me to look at these papers.

Q. Yes. A. 41,289 25-100 square feet.

Q. And how much of that land is free from rights of way, restrictions of light and air and other encumbrances, so as to be capable of being built upon? A. I am unable to give you now the square feet of the 41,000 square feet which can be built upon. I can give you the additional square feet over and above the buildings that are now built.

Q. Will you let me see the memorandum you were using of the 41,000 feet? A. Yes, sir. There is an error there. That (indicating) should be 25 instead of 95.

Q. An error? Shall I change it? A. Yes, if you please. That (indicating) should be 27 instead of 29. That makes it—that is right.

Q. Of the total area of 41,289 feet and 25-100, there is, in the first place, a reservation along the first level canal which cannot be built upon? A. Yes, sir.

Q. And what are the dimensions of that, if you can state by simple inspection of the plan?

Mr. BROOKS. You mean, of the reservation?

Mr. MATTHEWS. Of what is called on the plan the 30-foot reservation.

A. It is a strip of land 250 55-100 by 30. It is a strip of land 250 55-100 by 30.

Q. That is the strip along the first level canal in front of the electric light station and wheel house? A. Yes, sir.

Q. And that, according to your present offer, we get the fee of, but we cannot use it for building? A. Yes, sir.

Q. Now, can you state the area— A. Pardon me. May I say: You get the fee of it subject to certain reservations therein for our flume and gate and water pipe.

Q. I understand that you offer the fee— A. We do.

Q. —in this 30-foot way called a reservation on your map, but you reserve for yourself certain rights in it? A. That is right, sir.

Q. Including the right of restriction that it can never be built upon? A. Yes, sir.

Q. Now, will you state the area of the way which is reserved by the Company between the wheel house and the dynamo room over the tunnel, if you can figure it out from the plan, or give me the dimensions simply?

Mr. BROOKS. Can Mr. Sawin aid you, Mr. Gross?

Mr. MATTHEWS. I am perfectly willing that Mr. Sawin should.

A. It is 62 by 20, sir.

By the CHAIRMAN.

Q. By 22? A. By 20; 62 by 20. That is reserved as a passageway.

By Mr. MATTHEWS.

Q. Over that you reserve a right of way? A. Yes, sir.

Q. Now, passing around to the rear of the electric light station, where is the next plot of land which cannot be built upon by the city? A. It is a piece of land extending southeasterly from

the retaining wall which is built between the carpenter shop and the boiler house, extending southeasterly to a line drawn along the easterly face of the chimney stack, produced northeasterly to meet the dividing line of the property hereby conveyed, the boundary line of the property hereby conveyed, and apparently scales 669 square feet.

Q. Besides those three restricted areas there is one more, isn't there? A. Yes, sir.

Q. Will you describe that, and state the area as nearly as you can? A. It is that piece of land which is now occupied by the railroad of the Boston & Maine Railroad, extending across the southerly end of the property hereby conveyed. I am unable to give you the accurate dimensions of the land occupied by said railroad, but understand that it amounts to about 576 square feet.

Q. Are there any other restricted areas besides those four? A. No, sir.

Q. I understand that one of them scales 669 feet, another 576 feet, another was 62 by 20, which would be 1240 square feet, would it not? A. Yes, sir.

Q. And the fourth was 250 55-100 feet by 30, which is 7,516 1-2 feet, isn't it? A. Yes, sir. My attention is called to the fact that the easterly line of the passageway is three-tenths shorter than the westerly line, due to the fact that the lines converge, and the area therefore would be not quite 7,516 1-2 square feet.

Q. What do you make it by scale, or ask Mr. Sawin and let him give you the figure? A. Well, it is about half-way between; I should suppose 7,512 feet.

Q. And what do you make the total of these four restricted areas? A. 9,997 square feet.

Q. What are the directions of the compass? A. That is about north, sir—about the angle; this is about north and south. Call this north—this corner north. That line is just about north and south.

Q. What is the width of the strip which you have added to the Company's original offer on the southeast—is that right? A. Southerly corner.

Q. Well, at the southerly corner of the proposed tract. A. 35 feet in part. In the original offer the easterly boundary line was a diagonal line extending almost due south.

Q. You practically offer a strip of land 35 feet in width in addition, upon the southeast of the tract which you formerly offered? A. Yes, sir.

Q. That additional tract would be separated from the tract formerly offered and any buildings that could be put upon it by the chimney stack, would it not? A. No, sir. There is today a coal shed standing upon a portion of this property, and this land now offered will enable that coal shed to be moved entirely upon the land deeded to the city of Holyoke.

Q. The land which you now offer, that is, the additional land, could be put to the use of storing coal? A. It was intended for that and for one other purpose—a railroad track extending onto the property described.

Q. Then this additional tract which you now offer upon the southeast of the chimney would not be available for buildings? A. Except for those purposes—coal and railroad purposes.

Q. What right do you offer in the railroad tracks? A. We cannot offer any, sir.

Q. Have you any yourself—that is, has the Holyoke Water Power Company? A. Only the right of user, as I understand it.

Q. Who owns the land upon the southeast of the tract which you now offer to the city; that is, the tract which you have marked "Passageway along second level canal"? A. The Holyoke Water Power Company.

Q. Who owns the tracks? A. I am unable to say.

Q. You do not know whether the Holyoke Water Power Company or the Boston & Maine? A. I do not, sir.

Q. Does the Holyoke Water Power Company own the tracks as they continue over on the George R. Dickinson land? A. I understand not, sir.

Q. Can you give us the area of the additional land which you now offer on the southeast of the chimney? A. I understand it scales 3,287.72 feet, from which should be deducted 576 square feet, being the amount thereof occupied by the present railroad.

Q. 576? A. 576. 3,287.72, from which should be deducted 576 square feet, being the land occupied by the railroad.

Q. Why do you say that land should be deducted? A. For the reason that we reserve from our grant the right of the George

R. Dickinson Paper Company Division of the American Writing Paper Company to use that track and to maintain it.

Q. That 576 feet is included in the total area of 41,289 1-4 feet, isn't it? A. Yes, sir.

Q. Will you add to the figures that you already have, 9,997, the area of this additional lot upon the southeast of the chimney stack which you say is available only for coal shed and railroad purposes? A. Do you mean the total, or taking out the 576?

Q. You do not want to take it out twice, that is all. If you take it out only once it does not make any difference which way you do it. What do you make that, Mr. Gross? A. 12,708.72.

Q. Will you deduct that from the total area of the land offered to the city and let me know the remainder, which will represent the area available for buildings? A. 28,580.53 square feet.

Q. Mr. Gross, I understand that you do not offer to the city the fee in the tailrace? A. We do not.

Q. Is it not customary for the Company to sell the fee in the tailrace to the mills? A. I know of no such case and am informed—I have not examined the deeds—I am informed it never has been done in a single case.

Q. Does the Company reserve the fee in the tailraces? A. Yes, sir.

Q. According to your understanding of the practice? A. Yes, sir, I have a list of a great many of them that are reserved. I guess it is at my office.

Q. You mean to say that in selling a mill site to the Holyoke mills you have sold irregular lots like this, and of irregular shape, with a narrow frontage upon the upper level canal, and reserving the tailrace in the rear to the Holyoke Water Power Co.? A. I know of no case exactly similar to this, but there are many cases where we have given the right to discharge water through tailraces extending across our own land to a lower level canal or to the river.

Q. That is not an answer to my question, or perhaps you misunderstood it. A. Will you please repeat the question?

Q. I will put another one and make it plainer, Mr. Gross. When the Holyoke Water Power Company sells a mill site, does it or does it not keep the fee in the land which is to be occupied by the tailrace? A. In some cases to a portion of the tailrace; in other cases not.

Q. Will you mention cases in which the Company has conveyed mill sites and has kept or has not kept the fee in the land where the tailrace appears or is to be built? A. I had a list furnished me, but that list I have not with me now.

By the CHAIRMAN.

Q. You have not got it with you? A. No, sir, not here; it may be at the hotel.

By Mr. MATTHEWS.

Q. Is it not a fact that the mill sites that the Holyoke Water Power Company has sold have been rectangular lots running from canal to canal? Has not that been your custom? A. Not in all cases.

Q. I will ask you to look at this map which was prepared by Mr. Sawin and has been put in evidence in this case, and will ask you to look at the mill sites on the first level canal as shown upon this map—

Mr. COTTER. What is the number of that map?

Mr. MATTHEWS. I am sorry to say I cannot tell you the number.

Mr. GREEN. The exhibit is No. 63. This is a blue print furnished me. The exhibit has been lost—the original exhibit.

Q. (Con.) —this map, Ex. 63, and ask you to name a single mill upon the first level canal which did not receive from the Holyoke Water Power Company a rectangular lot of land running back from the first level canal? A. The Parsons Paper Co. No. 1 is not rectangular. That draws from the first level canal.

Q. Pardon me, that discharges into the river, doesn't it? A. You said on the first level canal.

Mr. BROOKS. Let him answer your question if you had just as soon he would.

A. The Whiting Paper Company at No. 2 is not rectangular. No. 3, Mackintosh & Sons, is not rectangular. Apparently they all are until we get down to the Farr Alpaca.

Q. What number is that? A. That is the last one.

Q. The Farr Alpaca does not use water power, does it? A. Yes, sir, it takes certain water from the canal. It does not use it for power purposes, I think, but for other purposes.

Q. Well, it does not use water power? A. I believe not.

By Mr. BROOKS.

Q. Did you look at Whiting No. 1? A. I think that is Whiting No. 1. (Indicating.) That is Whiting No. 1.

By Mr. MATTHEWS.

Q. How many mill sites are there on the first level canal? A. I should have to count them up, Mr. Matthews.

Q. Well, if you will kindly do that. A. I am unable to answer, for the reason that some of them I know are sub-divided, and I doubt whether I could correctly answer your question.

Q. Well, answering it as correctly as you can from the map, Mr. Gross, how many would you say there were? You have just added them up, I understand. A. I can't answer from the map for I don't know the significance of those numbers. The numbers—the total of the numbers is far in excess of my understanding of the mill sites on the first level canal.

Q. How many numbers are there on this map indicating mill sites on the first level canal? A. 24.

Q. And you only find three of these mill sites, assuming them to be such, which do not consist of rectangular lots of land? A. Yes, sir.

Q. Now, those three are, in the first place, the Parsons Paper Company, No. 1? A. Yes, sir.

Q. And that mill site is on the lower side of the first level canal, but the tailrace discharges into the river? A. Yes, sir.

Q. And it occupies, does it not, all the land between the first level canal and the river or the gas works? A. No, sir; there is a high embankment between; there is a high embankment and passageway which they do not own.

Q. Between the Parsons Mill and the first level canal? A. Yes, sir.

Q. But from the line— A. That must be northeasterly, the embankment.

Q. That mill site extends from that embankment, without interruption, down to the river, does it not? A. Except where the gas works is situated, yes, sir.

Q. And it is substantially a lot of rectangular shape? A. I should hardly say so.

Q. You wouldn't say it was irregular, as irregularly shaped

as that which you offer to the city of Holyoke in this instance, would you? A. Not quite; very nearly.

Q. Very nearly? A. Yes, sir.

Q. Do you know what the area of it is? A. I do not.

Q. How many mill powers went with it? You can refresh your memory by looking at the list in the corner of the map, Mr. Gross. A. There are certain day powers and certain night powers. There are permanent power, 9 mill powers, 16-hour day powers; 6 night 8-hour powers, and 3 24-hour non-permanent powers.

By Mr. GREEN.

Q. Does that include the Parsons No. 2 also? A. No, sir, that is very different.

By Mr. MATTHEWS.

Q. That is equivalent to about 10 24-hour powers, isn't it? A. I shouldn't dare answer that without computation, sir.

Q. Somewhere near that, isn't it? A. There is an overlapping there. What do you mean by 10 24-hour powers—24 hours a day, for the whole day?

Q. A 24-hour power. A. I should say not, sir. There is 9 for 16 hours, 6 night hours; that is very different from that, because most of the mills, or many of them, shut down at night.

Q. If you cannot answer it, we will let it go. A. I could not.

Q. And you do not know the area of the Parsons mill site? A. No, sir.

Q. Now, the other two cases to which you called the attention of the Commission of mill sites on the first level canal which are not rectangular in form, are those marked 2 and 3 upon this map? A. Yes, sir.

Q. The Whiting? A. The Whiting No. 1.

Q. And the Mackintosh mill? A. Yes, sir.

Q. Those mill sites both run from the first level down to a passageway along the second level canal, do they not? A. Yes, sir.

Q. And they are separated from each other simply by a railroad track? A. Yes, sir.

Q. Have you there anything that you want to put in? (referring to paper in witness' hand.) A. I have a copy—I can

now answer perhaps your question with reference to raceways crossing land other than that of the lessees.

Q. Well, I would like to have you answer that in a moment, but answer this question first, please. Take the mill sites of the first level canal, which of them are connected with the tailrace upon the company's land? A. I am unable to answer that now, for the reason that I am not sufficiently acquainted with the dividing lines of those properties as shown on the map.

Q. You know the land of the Holyoke Water Power Company, don't you? A. Generally, sir, but not specifically, so as to enable me to answer your question.

Q. Let us take them up in order, then. The Parsons No. 1, which is the Parsons mill, owns its own tailrace, doesn't it? A. Yes, sir.

Q. No. 2? A. I think it does.

Mr. BROOKS. What is that, the Whiting?

Q. The Whiting. And number 3? A. I think both No. 2 and No. 3 tailraces extend across a private way belonging to the Holyoke Water Power Company, and that the respective mills do not own the tailraces except to the eastern boundary of their property, and thence on have only the right, as I understand, to use the tailraces into the second level canal.

Q. But they own all of the tailrace except where it crosses this right of way along the second level canal, do they not? A. I think so.

By Mr. BROOKS.

Q. Do you want to include in that question the canal bank? It is 20 feet away from the passageway. A. Yes, the passageway and the canal bank.

By Mr. MATTHEWS.

Q. In other words, the situation with regard to the Whiting and the Mackintosh mills is this, is it not: That they own in fee all the land from the first level canal down to the passageway and embankment along the second level canal? A. I so understand it.

Q. And they own in fee all of their own tailraces except that portion of them which traverses this passageway and embankment along the second level canal? A. I so understand it.

Q. Now take mill No. 4. A. The Lyman mills?

Q. The Lyman mills. A. There is no passageway there. They discharge directly into the second level canal.

Q. And they own the whole of their tailrace, don't they? A. As far as I know.

Q. And their land runs from one canal to the other, does it not? A. I so understand.

Q. And that is a rectangular lot, is it not? A. Apparently.

Q. Now, will you take up the mills marked 5 and 7 on this plan, which are the Whiting No. 2 and the George W. Prentiss Company, and will you tell me about their land, and the size and shape of it, and the tailrace? A. I understand that those two pieces of property have a common flume and a common tailrace.

Q. On their own land, however? A. On land belonging to them severally. The Prentiss property borders on the first level canal. The tailrace, I think, is on their land. But the No. 5 mill, which is the Whiting No. 2, has the right to draw through that, and the Prentiss has the right to discharge through the tailrace which is upon the Whiting property No. 2. So that it is not a joint ownership, but it is an ownership, as I understand, with easements in each to that portion of the flume or tailrace which is situated upon land of the other.

Q. The Holyoke Water Power Company does not own the tailrace, does it, or any part of it? A. I understand not.

Q. And those two mill sites together run from canal to canal? A. Yes, sir.

Q. And together constitute what appears to be a rectangular lot? A. Yes, sir.

Q. Now, take 8, 9 and 11, which are the Beebe & Holbrook Company, the Wauregan Paper Company, the Whitcomb—the Whitcomb building. Can you tell me what the situation there is with reference to ownership and tailraces? A. I cannot of my own knowledge, for I have never been upon, I think, either one of those properties.

Q. You don't understand, do you, that the Holyoke Water Power Company has any land or rights left in the rectangular space shown on this map as occupied by those three mills, 8, 9 and 11? A. I understand not.

Q. And those three mills occupy, do they not, what appears to be a rectangular lot extending from canal to canal? A. No,

sir; I should say three rectangular lots. There is a street between.

Q. There is a small street, marked Bigelow street, in between, but there is no property of the Holyoke Water Power Company in or about them? A. I understand not..

Q. Now, No. 12 is the Merrick, the property of the Merrick Company, is it not? A. Yes, sir.

Q. And that appears to be a large rectangular lot extending from canal to canal, does it not? A. Yes, sir.

Q. What do you understand to be the facts about the tailrace there? A. I understand we have no title to the tailrace.

Q. I will now call your attention to the block between the first and second level canals and Appleton street and Cabot street, comprising mill sites numbered on this plan 20, 21, 43, 44, 45, 46 and 22. Can you state what the situation is with respect to these? A. We own a part of that property.

Q. And you have buildings on the part you own; haven't you? A. Yes, sir.

Q. Which are the sites that you own and which are the sites owned by others? You can consult with Mr. Sawin, if you want to. A. No, I know certain ones we own.

Q. There cannot be any dispute about it? A. No. 20, as shown upon the map, is the property of the William Skinner Manufacturing Company. The tailrace of that mill site extends across the land of the Holyoke Water Power Company lying east of Bigelow street.

Q. What number is that? A. 43, sir. My remembrance also is that Bigelow street is a private street owned by the Holyoke Water Power Company.

Q. Now, No. 43, the mill which the company owns, is the Seymour Cutlery. A. It was formerly occupied by the Seymour Cutlery Company. It is not now.

Q. And the mill site No. 43 as shown on this plan is occupied by buildings owned by the Holyoke Water Power Company? A. Yes, sir.

Q. And I take it the tailrace is common to the two, or the tailrace for No. 20 runs under No. 43? A. It runs under 43, and I think it is not a common one, but I am not positive.

Mr. MATTHEWS. You are probably right about that.

(Noon recess.)

AFTERNOON SESSION.

CHARLES E. GROSS, *resumed*,*Cross-examination by Mr. MATTHEWS, continued.*

Q. Will you go on to the other mills in the block that we were discussing before lunch? A. The property represented on the map as 44 and 45 is owned by the Holyoke Water Power Company.

Q. And built on? A. And built upon.

Q. What is 21, immediately in front of 44 and 45? A. 21 is property of the Farr Alpaca Company.

Q. And what about their tailrace? A. Their tailrace extends across our property and discharges into the second level canal, and we have, as I understand, two penstocks extending across their property to our property and across Bigelow street.

Q. You must also have a penstock across No. 20 to supply your mill 43? A. I am not confident of that, Mr. Matthews; I cannot say whether the penstock for 43 comes across 20 or across 21.

Q. Well, it comes across somebody else's land? A. Yes, sir.

Q. What do you say about 22 and 46, 46 being on the first level canal and 22 immediately behind it on the second level? A. 22 is the property of the Massachusetts Screw Company. 46 is owned by the Holyoke Water Power Company, and the tailrace of the property 46 extends across the property of the Massachusetts Screw Company. I cannot say as to the penstock for the Massachusetts Screw Company, for I do not know whether they use water or not.

Q. There are those seven mills or mill sites numbered on this plan in the rectangular block between the first and second level canals and between Cabot street and Appleton street, are there not? A. Yes, sir.

Q. And all of those seven sites are rectangular in shape, are they not? A. I should say so.

Q. Now, 48, the next mill shown on this plan— A. Is the Cabot Street Mill, owned by the Holyoke Water Power Company.

Q. And immediately next to that is the electric light plant? A. 49 is the electric light plant; 50 and 51 the testing flume plant and the carpenter's shop of the Holyoke Water Power Company.

Q. The Cabot Street Mill itself occupies a rectangular lot of land extending between the two canals? A. The mill itself occupies such a rectangular piece.

Q. You do not offer to the city, either in your present offer or in the former one, the tailrace alongside the Cabot Street Mill; you keep the fee in that, do you not? A. We keep the fee in the land, but give the sole and exclusive use for the discharge of water in the tailrace to the city.

Q. You do not give the city, however, the sole and exclusive use of the structure of the tailrace, the wall and piers, etc., composing it? A. We reserve the right to erect a building over the tailraces and to support said building upon the piers and walls of said tailraces.

Q. And as you understand it, there were piers and walls built in connection with that tailrace for that purpose, were there not? A. I understand that there are piers along one of the walls of the tailrace.

Q. For that purpose? A. I do not know, sir, for what purpose they were built.

Q. Could they have been built for any other purpose than that of supporting a building to be extended over the tailrace? A. That I do not know, sir; I should say yes.

Q. Have you any doubt that those piers were put in for the purpose of building some building for the Company? A. I have no doubt that they were put in for the support of some structure over the tailrace, but whether a building or not, I cannot say.

Q. And such structure, whatever it might be, would belong to the Holyoke Water Power Company? A. Under this lease as offered, yes, sir.

Q. Passing along to 23, that is the property of the George R. Dickinson Paper Company, is it not? A. The George R.

Dickinson Paper Company Division of the American Writing Paper Company, yes, sir.

Q. That was formerly the George R. Dickinson Paper Company? A. Yes, sir.

Q. And also on a rectangular lot extending from canal to canal, is it not? A. Yes, sir.

Q. The same is true of Parsons? A. Parsons Paper Company No. 2.

Q. That is also a rectangular lot extending between the canals, is it not—that is, from canal to canal? A. I am unable to say of the Parsons Paper Co. No. 2. I have examined the conveyance to the George R. Dickinson Paper Company, or to George R. Dickinson, and that extended from canal to canal; but there is on each side of the property of the Parsons Paper Company No. 2 a passageway, and whether the deed carries the title to the canal bank or not, I do not know.

Q. Well, Mr. Gross, either the Parsons No. 2 mill site extends from canal to canal or from passageway to passageway? A. Undoubtedly.

Q. And the same is true, is it not, of No. 25 as marked on this plan, which is— A. I do not know anything about that property.

Q. The Linden Paper Company mill site? A. I do not know anything about that, sir.

Q. As it appears on that plan, it extends from canal to canal, does it not? A. In part. The canal does not extend the length of their property; it stops.

Q. But the site as shown on that plan is a rectangular site running from the first level canal to the second? A. Or from passageway to passageway.

Q. Or from passageway to passageway? A. Yes, sir.

Q. Do you know the area of the twenty odd mill sites which you have just described, situated on the first level canal? A. I do not.

Q. Do you know the number of mill power per acre or the number of square feet of land per mill power? A. I do not.

Q. Haven't you made any investigation of that subject? A. No, sir. I have the record in my office of every piece of property and the mill powers connected therewith, but I have not com-

puted the mill powers per acre or the square feet per mill power.

Q. You do not know the number of square feet per mill power? A. No, sir.

Q. Does that record of which you just spoke give the areas of the mill powers as well as the water power which goes with them? A. No, sir.

Q. It gives simply the number of mill powers? A. Yes, sir, and the character of those mill powers.

Q. Then that record is not substantially different from the schedule which is found in the upper right hand corner of the map before you, Exhibit 63? A. I think it is a little more complete than that.

Mr. MATTHEWS. I understand, Mr. Chairman, that there has been submitted to us a corrected schedule.

Mr. BROOKS. It has not only been submitted to you, but it has gone in evidence a long time ago.

Mr. MATTHEWS. It has not been printed, Mr. Brooks, has it?

Mr. BROOKS. It should have been, because it was put in as a correction and introduced in evidence, and it was marked as an exhibit

Mr. GREEN. I think it was printed.

The CHAIRMAN. You can go ahead and use it, Mr. Matthews.

Mr. MATTHEWS. I was going to suggest that it ought to be printed, but Mr. Brooks says it has been. The facts were that Mr. Sickman said there were one or two corrections to be made in the schedule as it appears on the map, and he was going to make them, but I have never seen it until this morning. I will ask to have this schedule which Mr. Brooks says was submitted some time ago in evidence by the Company, but which has not yet been printed—I will ask to have it printed in the minutes.

Mr. GOULDING. I think it has been put in, and according to my instructions that is either 73 or 78.

Mr. GREEN. The plan was put in evidence, Volume 6, page 129, as Exhibit 63, in the testimony of Albert F. Sickman; but whether that little schedule was pinned onto it, I do not know.

Mr. BROOKS. It was, and he was examined from it.

Q. Mr. Gross, do you know of any mill site in Holyoke that

has 16 mill power attached to it and contains less than 200,000 feet of land? A. I am unable to answer the question.

Q. Is there any mill site in Holyoke with 8 mill power and less than 100,000 feet of land? A. I am unable to answer the question.

Q. You have records, of course, from which you would be able to answer those two questions? A. I think so. The Company has.

Q. Would it be too much to ask you to prepare a list of all the mill sites shown on that plan, with the areas? Is there any objection, Mr. Gross? A. None that I know of, whatever. We will endeavor to have it done before—

Q. Before the next hearing? A. Week after next, I understood the next hearing was to be.

Q. Next week, the hearing is to be. A. Very well, I will endeavor to have it done next week.

Mr. MATTHEWS. Wednesday, is it, Mr. Turner?

Mr. TURNER. Wednesday morning.

The WITNESS. I will endeavor to have it done at that time. May I ask, do you wish for anything more than on the first level canal?

Q. Yes, I would like the whole. I would like to have this schedule which Mr. Sickman prepared, giving all the mills in Holyoke and the water power attached to them, amplified by the addition of a column showing the area of each. A. I understand it.

Q. You will undertake to have that done, Mr. Gross? A. Yes, sir.

Mr. MATTHEWS. I will be very much obliged to you if you will.

(Counsel for the city introduced in evidence the plan which had been produced, entitled "General plan of electric light plant, Holyoke, Mass. Scale, 1-16 inch = 1 foot. November, 1900. W. E. Sawin," and said plan was marked "Ex. 120, F. H. B." The same is printed herewith, being reduced to the scale of 48 feet to 1 inch.)

(Counsel for the city also requested that the plan of the manufacturing district of the city of Holyoke, Exhibit 63, should also be printed at this point, and the same is printed herewith, being reduced to the scale of 600 feet to 1 inch.)

Q. Now, Mr. Gross, coming to the additional water rights which you are now willing to grant the city, I understand in the first place you will give the city the right to draw water from the canal for condensing purposes when there is water in it? A. During periods wherein you are restricted in the use of the mill powers granted.

Q. That is to say, at other times we should have to take it from the penstock; is that the idea? A. No, sir, at other times when you are not using the water you would have to take it, I should suppose, from your own water mains. There is a water main belonging to the city of Holyoke in the passageway.

Q. That is, if at any time we should be using water from the canals for power and should want to run the engines too and run them condensing, we would have to use city water? A. The question which you propounded to us was in respect to the use of water for condensing free of charge. It was our intent to give to the city of Holyoke in and by the propositions read this morning the right to take water for condensing purposes, to be used in connection with the condensing engine for the manufacture of electricity during such times as the city of Holyoke was restricted in the use of the non-permanent mill powers granted, so that it should be supplemental to the use of the water in your water wheel.

Q. I do not think that answers my question, quite. Suppose that we are unable to get water at all in the wheels, we can draw water from the canal for condensing? A. Yes, sir, provided you are taking water from the canal under a lease, but it was not our intention to give right to condensing water for your engine unless you take water by lease.

Q. I understand that we do not get any right under this offer to water from the canals for condensing unless we take the water plant and water power? A. That is right.

Q. That again was not my question exactly. I am glad you made that statement, because I had it in mind to ask also. What I want to know is this: If we are using water in the wheels but not using up to 16 mill power, do you give us the right to make up the deficiency from the canal for use in running the engines condensing? In other words, suppose we wanted to run the water wheels and engine both? A. We do not intend to give

you the right to use condensing water unless you are restricted in the use of the mill powers granted.

By the CHAIRMAN.

Q. What do you mean—that as long as they have 16 mill powers they cannot have condensing water? A. As long as they are using 16 mill powers or such other mill powers as they take by lease, they cannot have the water for condensing purposes.

By Mr. MATTHEWS.

Q. That answer is made on the assumption, Mr. Gross, is it not, that we either get 16 mill powers through the water wheels or none? A. No, sir. We have offered 16 mill powers; that is all we have offered. I do not know what the result—

Q. I am not speaking about the offer; I am speaking about the practice after the lease goes into effect. May it not be possible that you could furnish on some day some water power, but not 16 mill power? A. Then you are restricted; then you would have the right to use steam and the right to use condensing water.

Q. That is exactly what I was trying to get at. A. Yes.

Q. And I understood your answer to mean simply that we could use water for condensing on the days when we did not get any water from the wheels? A. I intended to say that when you had the opportunity of using the water under the lease, that you could not use condensing water for steam purposes; but that if you are at any time restricted in the use of water or are unable to get the amount of water to which you would be entitled under the lease, then you would have the right to use water for condensing purposes.

By the CHAIRMAN.

Q. Saying you got 15 mill power, then would you have a right to it? A. Yes, sir, because they would not have the right to their 16. Whenever there is a shortage of the water under the lease they would have the right to use water for condensing purposes.

Q. Is that definitely stated in the lease, if I may interrupt? A. Yes, I think it is.

By Mr. MATTHEWS.

Q. That is to say, as I understand you, it is the intention of

the Company to give the city the right to use water from the canals for condensing free whenever and to the extent that it is unable to get from you power through the wheels? A. No, sir, not to the extent. You are only entitled to 1-4 mill power for condensing purposes, which is estimated to be twice that which you would need for condensing purposes; but if you are deprived of 10 mill powers in your wheel, you would not be entitled to 10 mill powers for condensing purposes.

Q. My question was not intended to be understood that way.

Mr. BROOKS. That is the way we understood it, Mr. Matthews.

Q. I did not mean, of course, in mill powers; I meant to the extent that would be necessary to produce that amount of power by steam, which you say would be 1-8 mill power. A. Whenever you are unable to receive the amount of water into your wheel that you are entitled to under your lease, then you will be entitled to take water for condensing purposes in your engine.

The CHAIRMAN. One fourth.

The WITNESS. Not to exceed 1-4 mill power, which is estimated to be twice what you would need.

Q. Let me put this proposition, Mr. Gross: Suppose we take a lease for 16 mill power and on some day you are able to furnish 10 only; are we obliged to take that 10 mill power? A. No, sir.

Q. Or can we reject it for that day and draw water from the canal and run the engines condensing? A. I understand that you would be entitled to run your engines for condensing.

By the CHAIRMAN.

Q. What are you going to do with the 10 mill power that you have there? A. They would be deprived of the use of the water and they would be entitled to a rebate, because we are not furnishing them the water to which they are entitled under their lease, unless they take the other water drawn from the first to second level canal in lieu thereof, in which case they would not be entitled to their rebate.

By Mr. MATTHEWS.

Q. Let me see if I understand you. If we take a lease of 16 mill power and on some particular day all the Company can furnish is 10 mill power, the city can decline to take any water power

that day, will get its rebate at the rate of \$5 per mill power or \$80 per day, and can draw water from the canal to run the engines condensing without charge? A. Yes, sir, I so understand it.

Q. And do you think or understand that the lease is drawn to effectuate that intent? A. That was the intention, sir.

Q. Now, one other question, Mr. Gross.

Mr. GREEN. Mr. Gross says he can explain in this lease just where those provisions come in.

Q. I will ask him this question and then let him explain. Suppose in the case I assumed, instead of rejecting the water power that day and running its plant by steam engines condensing, the city should take the 10 mill power, what it could get, and make up the balance of its power from the steam engines, would it be entitled to water from the canal for condensing free, and what would it pay for the 10 mill power? A. I don't understand that such an occurrence could ever happen, sir.

Q. Suppose we have occasion to use more than 10 mill power? A. Your lease would be entitled to 16 non-permanent mill powers. When the time comes that we cannot furnish you the 16 mill powers we notify you and you are deprived of the use of that water, the reason being that there is still water in the canal for the lessees of permanent power. We must furnish you either the whole of the 16 mill powers or none, of the non-permanent. Therefore the moment you do not get your 16 mill powers of non-permanent power you are deprived, and you are entitled to your rebate, and whenever you are deprived of any use of water to which you are entitled, then you are entitled to take water for condensing purposes.

Q. Then you say the case which I supposed a moment ago could not arise? A. It could not arise.

Q. That is to say, we would never be in the position under this proposed lease of being able to get some mill power less than 16? A. You would either get that which you are entitled to of non-permanent power or you wouldn't get anything, except under the other provisions of the lease.

Q. Then you modify your answer as to what the rights of the city would be in case you could only furnish 10 mill power? A. We are not furnishing any 10 mill power.

Q. I think your answer assumed you would furnish 10 mill

power—your first answer. A. I didn't intend it so. I may have understood you to refer to a time when you may take 10 mill powers under the other provisions of the lease, during periods of deprivation.

Mr. MATTHEWS. No, I am not referring to that at all.

Mr. BROOKS. That is through the wheels.

The WITNESS. Through the wheels.

The CHAIRMAN. We want to understand it, and I do not quite understand it myself. We have got two different kinds of water power under different conditions. Cannot you explain to us so we can understand what would be the relation of the city to the water under the first condition and the second condition—provided that does not interfere with Mr. Matthews. Does that interfere with your question?

Mr. MATTHEWS. Not at all.

The CHAIRMAN. I know you can explain it, and we ought to understand it. Probably I do, but I want it confirmed.

The WITNESS. I will try, with your Honors' permission. There will, under the lease, be times when we can furnish 16 non-permanent mill powers, 24-hour mill powers, and there will be times when we cannot. The city of Holyoke will be entitled to receive the full 16 24-hour mill powers during such times when we can furnish that amount of water. If at any time the non-permanent water is reduced so that we cannot furnish that, then they will not be obliged to take any, and not be entitled to take any, but then they will be entitled to a rebate.

The CHAIRMAN. Of \$80 a day.

The WITNESS. Yes, \$80 a day. During that time they will have the right to take from what we would call the permanent water in that canal, water for condensing purposes.

The CHAIRMAN. Then there is another part to it.

The WITNESS. Then there is another point, in this—that if during those periods we are obliged under the terms of our leases to deliver water from the first to the second level canal, so that the lessees upon that canal of permanent power shall have the amount of water they are entitled to, then we say that we will, with their consent, draw that water through their wheels without charge to them, and they will then not be entitled to a rebate. That water may not amount to 16 mill powers in the summertime.

It may be that they would not want 16 mill powers. But it might be cheaper for them to take the amount of water we will draw through their wheels and not run their steam plant. It is optional with them to say whether they will use their steam plant and take their rebate of \$80 a day, or whether they will take the amount of water we can furnish them and not have their rebate. In other words, we put them exactly in the position in which the Holyoke Water Power Company has been. Whichever it could do most economically it has done. Whichever the city of Holyoke can do most economically we assume they will do. If they can run their steam plant cheaper they will do it and take condensing water. If they will take the water we can run through their wheels and produce the power they need, we assume they will do that, although it will not amount to 16 mill power.

Mr. GREEN. Take your last proposition. Supposing that the non-permanent power is off, and you are going to draw what amounts to 8 mill power down into the second level canal to supply your permanent customers there. Supposing we were going on a 16 mill power basis, would you, if we took and used but the 8 mill power that you would draw through our wheels—would you allow us to use water for condensing, so we could supplement that mill power with another 8 mill power in our engines?

The WITNESS. No. In other words, we offer you the option of running your steam plant, taking your condensing water and taking your rebate of \$80 a day, or giving up the condensing water, giving up your rebate, and taking the amount of water that we offer you. Whichever you find to be most economical we assume that the city of Holyoke will take, and whichever you desire to take you have the option of taking, but you cannot have both.

Q. Now, that answer of yours applies to the proposition you now make to give us, under certain terms, water power upon the restricted days? A. Yes, sir.

Mr. BROOKS. May I be allowed a suggestion?

Mr. MATTHEWS. Let me ask just one question before I forget it.

Q. I understand now. I think we were talking at cross purposes. I thought I was speaking about the use of water power on restricted days and I did not intend to have my question

otherwise understood, but I understand your answer to Mr. Green's question to be in substance this: That upon the restricted days, if we wish, the company will run water through the wheels for the purpose of adjusting the water in the second level canal. That is right, isn't it? A. We may and may not.

Q. Yes. If we take advantage of that right, and use that water, we are not entitled to water for condensing, no matter how much power we get? A. Yes, sir.

Q. That is it; but we have our option? A. You have your option.

Mr. BROOKS. Excuse me a moment. Why wouldn't they take that from their own tailrace—the water for condensing, and through the wheels?

Mr. GOULDING. Pump it.

Mr. BROOKS. That water that goes through the wheels is for such purpose as they desire?

The WITNESS. That water should be returned through the tailrace to the second level canal, because it is to be used by the lessees on the second level canal, and we do not give to any of the lessees the right to take water for condensing purposes from the tailraces, where it is going into a lower level canal.

Mr. BROOKS. But provided they returned it to the second level canal there would be no objection?

The WITNESS. If they returned the same amount there would be no objection in that case—if they returned it to the canal.

Q. The water we take for condensing has got to be returned to the first level canal? A. Not necessarily.

Q. Can we draw it from the first level canal and turn it into the tailrace? A. I should suppose you could, but you might not.

Q. Can we do it, as you now propose to adjust the relations between the company and the city? A. It is not provided for in the lease.

Q. That is an omission, is it? A. If that is desirable—we had not discussed that question. I don't know that it would be objectionable to allow you to take from the tailrace if you returned it to the tailrace. If you put back for the benefit of the lessees on the second level canal the same amount of water it would not be objectionable to us.

Mr. BROOKS. It doesn't take long to go through the engine, does it?

Mr. GOULDING. I did not suppose there was any question that condensing water provided for in the lease passed right along into the second level canal; I did not suppose they had got to pump it back into the first level.

The WITNESS. No. There is no provision as to what they shall do with the water they use for condensing purposes.

Q. Then that gives us the right, as you understand it, to return the water after we have used it in the engines into the tailrace or into the second level canal? A. I can see no objection to putting a provision into the lease, that at such times you shall have the right to use condensing water if you return it to the tailrace.

Q. Now, I would like to come back to the question I thought I was asking you some minutes ago, and which you thought had reference to the use of water power upon restricted days. You assume, as I understand it, that upon the days which are not restricted we are entitled to 16 mill power or nothing? A. Yes, sir.

Q. Now, isn't it conceivable that the company would be in a position to furnish some intermediate amount of power between zero and 16 mill power? A. Undoubtedly; but it would hardly be fair to you to require you to take the amount we could furnish you. Suppose we could only furnish you 1 mill power; you wouldn't want it.

Q. I am asking what our rights would be under those circumstances. A. We had not drawn the lease in that way. We assumed you would either want 16 mill power or nothing.

Q. Supposing we wanted 8 powers, or 6, on a day when you were not able to furnish the 16? A. The lease does not cover such a case.

Q. That is what I wanted to get at. We would have no right to draw it? A. No, sir.

Q. But the rights of the parties would be settled on the basis of the \$5 a mill power rebate? A. Unless at the time a separate agreement should be made.

Q. Exactly; but under the lease as you now propose it that contingency is not provided for. A. We did not, for we did not suppose it would be fair towards the city of Holyoke.

Mr. GOULDING. I understand the construction of these non-permanent leases, such as may be found on page 216 of volume 3, is such that, whatever the number of mill powers is that is granted, it is an entity that is inelastic. It is a thing that exists every second, 16 mill powers, as defined in the lease. It exists every second, so many cubic feet of water per second falling such a distance. So it is inelastic, as I construe the lease.

Mr. MATTHEWS. I think you are right about it. We should do the same.

Q. Now, I understood you to say that one-quarter mill power was ample for condensing purposes. A. Yes, sir.

Q. You have figured that out? A. Not personally.

Q. Is that based upon the experience of the other mills? A. I know of no experience of other mills in Holyoke, for we do not allow them to take for condensing purposes.

Q. Do not some of the mills take water for condensing? A. Yes, sir, one does, but takes it from the tailrace after it becomes waste water for discharging into the Connecticut river, when we have no longer any interest in the water.

Q. You said this one-quarter mill power was twice as much as we would need for condensing? A. About twice.

Q. That was figured out for you by somebody? A. Yes, sir.

Q. Have you the computation? A. I have not. I understood one-seventh of a mill power as defined in our proposals would be ample for the condensing, with an engine requisite for that plant.

Q. One thousand horse power? A. I do not know that the horse power was stated in my presence.

Q. Was that one-seventh of a horse power sufficient to run the present engines, or sufficient to run engines double the capacity? A. I understood of a much greater capacity than the present engines. One-seventh was said to be ample for that plant as it might be increased, and we gave one-quarter because we thought that that would be about twice what was required.

Q. We should be enabled under this lease, Mr. Gross, to get either water power from you through the wheels, or water from the canal for condensing, except upon those days when there is no water in the canal? A. Yes, sir.

Q. Do you know how many days in the year the water is drawn out of the canal so we could neither get water power nor water for condensing? A. I do not know, but I have understood that there have been very few days a year for a series of years. It is impossible to tell when it will be necessary to repair an overflow or repair a canal.

Q. You must have records of that? A. The company has, but I have only been connected with the company as an officer for two or three years.

Q. You agree that the company must have records from which one could ascertain the number of days per annum during which there is no water in the first level canal? A. I should expect such records. I am unable to say whether such a record has been kept or not. I know personally of no such record.

Q. Did you assume the statement of Mr. S. P. Winchester, which was, as I remember it, that there were only five days in the year during which there was no water in the canal.

Mr. BROOKS. Of course we would have to object to that.

The CHAIRMAN. He does not know.

Mr. MATTHEWS. If he doesn't know, all right.

The WITNESS. I do not know, because, as I say, I have only been connected with the company some two or three years.

Q. Can you produce at the next hearing, that is, next week, the records upon that point? A. I will endeavor to, sir.

Q. That is, showing the number of days that we would have to run this electric light plant non-condensing? A. Then you mean simply as to the first level canal?

Q. Certainly, as it affects our rights under this proposed lease. Are there not portions of Sundays during which the water is drawn off? A. Only for extraordinary purposes or repairs. Once or twice, as I understand, when a person has been missed and it has been feared that the person has been drowned, the water has been drawn off.

Q. You understand, Mr. Gross, that what we want— A. I will endeavor to give it to you.

Q. You understand, exactly this point. What we want is to ascertain how many days we should be obliged to run this plant by steam? A. That I couldn't answer.

Q. By steam engines operated non-condensing? A. That

I couldn't answer. I can only give you the experience of the past series of years.

Q. Well, the experience of the past few years as bearing on that point? A. Yes, sir.

Q. That is, the number of days during which there would be no water in the canal which we could use either for power or for condensing. You understand, Mr. Gross, that we want the records themselves? A. If there is any record, sir, you shall have it.

Q. You have no doubt that there are records, that the company keeps a record of these matters, have you? A. I don't know. I should expect such records, but I can't say because I never have seen them.

The CHAIRMAN. He has already answered that once before.

Mr. MATTHEWS. I thought there might be a misunderstanding as to whether he thought we wanted the records themselves produced or a memorandum from them. We would like the records themselves, Mr. Gross.

Q. You spoke about this lease giving the city the benefit of permanent water power, did you not? A. Yes, sir.

Q. And by that you had reference to the water power that we would get upon the restricted days? A. Not entirely; also on Sundays and holidays.

Q. Upon Sundays, holidays and the restricted days? A. Yes, sir.

Mr. GOULDING. You also classified the condensing water with the permanent.

The WITNESS. Yes, sir.

Q. That would be included in my statement because they would only get them on restricted days. Otherwise you do not claim that we get any permanent water power under this proposed lease. A. In no other way.

Q. Now, do you understand that this proposed lease gives to us permanent water power upon the same terms and conditions that other lessees of permanent power receive it? A. No, sir, entirely different.

Q. You do not offer us permanent power upon the same terms that you have offered it to the present lessees? A. Most

certainly, we give you extraordinary powers. There isn't a lessee I know of that has the right to take water on Sundays and holidays or for condensing purposes or to draw the water through the wheels in the same manner that we have offered it to you.

Q. I think my question was not plain, from your answer. A. I beg your pardon. Will you kindly repeat it?

Q. No, I will put another one. My question was rather this: To the extent that we are entitled to this permanent power under the proposed lease, do we get it on the same terms as the other lessees of permanent power do, with respect to the right of your engineer to shut it off? A. It is impossible, in my opinion, to classify the lessees of permanent power on the first level canal with the city of Holyoke under the terms of this lease, with reference to permanent power, for there is nothing similar thereto in any lease which has been made.

Q. I can put my question in this way, perhaps, more clearly—A. I think I know what you want and I will answer it in this way: You have every right that the lessees of the permanent power have, so far as I know, and more, too.

Q. That is to say, if the lessees of permanent power could draw water on Sundays as well as week days, we should have the same right that they would have? A. Well, I don't know as I can answer that, for they do not have the right to draw Sundays and holidays.

Q. Does the hydraulic engineer have any right to interfere with us in the use of these permanent water powers in the same sense that he has the right to interfere in respect to the non-permanent lessees? A. Exactly the same.

Q. The same right to interfere with the use of permanent power that he has in the use of the non-permanent? A. Yes, sir.

Q. Where do you find that in the lease? That isn't so in the case of the ordinary lessees of permanent power, is it? A. For certain purposes.

Q. I don't think you understand what I mean. A. It is impossible for me to compare the rights given you to water in the first level canal on Sundays and holidays with the other lessees of permanent power on the first level canal, for there is no one upon the first level canal that has any such rights as we offer to you.

Q. I think you still fail to apprehend my meaning or I fail to make my meaning clear. In your leases of non-permanent power there is a clause which is not found in the leases of permanent power, namely, the clause giving to your hydraulic engineer a right to dictate the amount of water, isn't there? A. So far as non-permanent is concerned, yes, sir.

Q. There is a difference between the two kinds of lease, isn't there? A. To that extent, of course, because the permanent power lessees have no—they might have non-permanent power as well—but if they do not have non-permanent power, then of course that provision allowing the hydraulic engineer of the company to shut the gate and deprive this man of non-permanent power could not apply to the permanent lessees.

Q. Now, my question is, does that provision apply to the city of Holyoke in its use of water on Sundays and holidays and the restricted days under this proposed lease? A. Yes, sir.

Q. That is, does the hydraulic engineer of the company have the right to interfere as he would in the case of non-permanent power? A. Not in the same degree nor in the same manner, but he would have this right: he has the right to say whether he will draw off the water of the first level canal for necessary repairs, and his decision of that question is conclusive.

The CHAIRMAN. But doesn't your paper go a little beyond that—that is what I would like to find out? Doesn't it allow the hydraulic engineer to say whether he will give the water or not?

The WITNESS. No, sir, I do not so understand it. The provision of the lease is: "And the grantor further agrees to give and hereby does give (in connection with said mill powers) to said grantee, its successors and assigns, so far as it has the right so to do, the right to draw from said first level canal during Sundays and legal holidays through the wheels on said premises, a quantity of water equal to 16 mill powers, except during times when the water in said first, second or third level canals has been or shall be drawn down for repairs or other purposes which may be necessary in the opinion of the hydraulic engineer of the grantor." The whole power of the hydraulic engineer is to decide when it is necessary to draw the water off in the canals, or one of them.

Mr. GOULDING. Cannot he decide that as against any permanent lessee?

The WITNESS. We have the right to do that against permanent as well as non-permanent lessees.

Q. Then we get under this lease the same right in the water of the canal on Sundays and holidays as the ordinary lessee of permanent power gets in the water of the canal on a week day?

A. To that extent, yes, sir, certainly.

Q. Now, I call your attention to volume 6, page 304, which is a lease of permanent power, dated January 14th, 1882, from the Holyoke Water Power Company to George R. Dickinson; and I will ask you if the second paragraph on page 304, the one beginning, "A night mill power of water," etc., does not describe a permanent mill power, the grant of a permanent mill power, and whether there is in it any such reservation of power to the hydraulic engineer of the company. A. "Subject, however, to the limitations and restrictions set forth in the said proposals," and in those proposals the right is reserved.

Q. Then you have incorporated in this lease provisions which, in an ordinary lease of permanent power, would be found in the proposals? A. No, sir; I have incorporated in this a provision that won't be found anywhere except here, for the reason that we are giving you something that never has been given to others.

By Mr. GREEN.

Q. You say in the proposals we will find this right reserved—that right of the hydraulic engineer to shut the water entirely off from the canals? A. Yes, sir.

Q. That is the only point here. A. Yes, sir.

By Mr. MATTHEWS.

Q. You find that in the proposals which accompany an ordinary lease? A. Made part of the lease.

Q. And all you have done apparently in this case is to incorporate it in the lease itself? A. Because there is nothing in the proposals applicable to Sundays and I had to bring it in.

Q. That may be the explanation of it, but I am simply asking you to state whether that is the fact or not. A. That provision is nowhere in a lease or proposals that has ever been given, as I understand it.

Q. But its incorporation in this lease makes, if I understand you, the city of Holyoke's right in this water power on Sundays

the same as the right of the ordinary lessee of permanent power in the water power on a week day? A. Yes, sir.

Q. That is what I have been trying to get at. Mr. Green and I had both assumed, in reading this lease hastily, that there was some difference. As I understand it now, there is none. A. There is none so far as the extent of your power. We have endeavored to put you exactly in the shoes of the Holyoke Water Power Company as owners of the power.

Q. The Holyoke Water Power Company cannot under this lease prevent our using water power on Sundays and holidays to any greater extent than it can prevent a lessee of ordinary permanent power from using the water on week days? A. Yes, sir; because the right is reserved for Sundays and holidays under the proposals; we draw the water on Sundays and holidays to make repairs, under permanent leases. Now we do not give you the same right on Sundays that permanent lessees have on other days, because we cannot draw off the water on other days unless under extraordinary circumstances, but we give it to you on Sundays, which we never have given to them; but we reserve the right whenever it is necessary for repairs or other purposes, in the opinion of the hydraulic engineer, to draw off the water on Sundays, the same as we have the right to do as against the permanent lessees of water.

Q. But you have not that right as against permanent lessees on week days? A. Except in extraordinary circumstances, when there isn't a certain amount of water flowing in the river.

Mr. GOULDING. When you were stating the proposals according to your recollection, I think what you referred to is in article 17, and perhaps the right is not reserved to do whatever the hydraulic engineer may see fit, because at that time you didn't have any hydraulic engineer, did you?

The WITNESS. I don't know.

Mr. GOULDING. But the right is reserved to the company.

The WITNESS. That may be.

Q. The clause of the proposals which you have reference to is the one Mr. Goulding now mentions, being the beginning of article 17, and printed on page 321 of volume 6? A. Yes, sir, that is the provision.

Q. I think I understand now, Mr. Gross, what the object of

this lease in this regard is. I now ask you whether you can tell from the past experience of the company how many days a year it would be necessary to draw the water down, for repairs or other purposes, on Sundays or holidays. A. I cannot, sir, as to the first level canal.

Q. Are there records in the possession of your company which would enable you to answer that question? A. I should expect such records, but I do not know of them.

Q. Will you kindly furnish us with those records if you find them? A. Yes, sir.

Q. I call your attention to the 7th page of the proposed indenture, article 7, which begins on the 6th page. I call your attention to the four quantities of water subject to which the grant to the city of Holyoke is to be made, and I ask you whether those are the same four quantities as are specified in the ordinary lease of non-permanent power? A. Yes, sir.

Q. And are these four quantities set forth in the same language which was used in the indenture originally offered by the company in this case, so far as you remember? A. This is identical with the offer in this case—the original offer.

Q. So far as this point is concerned? A. Yes, sir. It is in totidem verbis. I had them copied right from the book.

Q. And this clause subordinates, as you understand it, the grantee under the proposed indenture to all grantees under existing leases? A. Why, no, sir. There may be other leases of non-permanent power.

Q. Do you understand that all lessees of non-permanent power stand upon a parity? A. Almost entirely so, except this one.

Q. Why do you say "except this one"? A. Because we are giving you greater rights than the other lessees of non-permanent power.

Q. You now refer to the right to use water on Sundays and holidays, etc.? A. The amplification of your powers.

Q. I am now speaking simply of the non-permanent power which you offer us, and I will ask you again whether or not the city of Holyoke, if it accepts this lease, is not subordinated or postponed to the rights—

Mr. GOULDING. That is a pure matter of law.

Q. —of all persons having leases from the company? A. No, sir.

Mr. GOULDING. That is a pure matter of law. It seems to me a waste of time to argue that question, which certainly will be an important question when we come to consider this thing. Mr. Gross may have one opinion about it and his company may have another, and what his particular opinion as a lawyer is about that I do not think is important now. Of course, it is an interesting question, which I should be prepared to discuss at any time, but it does not seem to me that the opinion of Mr. Gross is important one way or the other.

Mr. MATTHEWS. The witness has been asked a series of questions which involve the construction of this instrument as matter of law. I do not suppose anything the witness says would bind the company against the argument of counsel at the close; but I cannot see the object of putting Mr. Gross upon the witness stand as a means of introducing this indenture, unless it is for the purpose of having him explain to the Commission and to the parties what he thought its effect and operation would be.

Mr. GOULDING. We had no such purpose whatever. He knew more of the facts than any of the rest; he got up this whole thing, really, and that was the reason.

Mr. MATTHEWS. Now we come to the most important thing of all.

The CHAIRMAN. We have been trying—I have for one—to get Mr. Gross's opinion on this subject.

Mr. GOULDING. I do not really think, speaking for the company, that it is quite authorized to take Mr. Gross's opinion upon a law question as having any bearing on this matter. How do I know but that Mr. Gross will affect your Honors' opinion very much—his opinion as a lawyer? I do not think that would be competent evidence.

Mr. GREEN. I think perhaps if Mr. Goulding understood just what we wanted he wouldn't object to letting us have it. I have had difficulty from the beginning of this case to see how the holders of non-permanent power can be, under the leases, on a parity. I know the witnesses have treated them all the time that way, and the company has apparently treated them that way up to very recently. Now, is there any objection to letting Mr. Gross tell us wherein under this lease he understands that we come in on a parity? We would like to try this case with under-

standing, and if we are in error we would like to be corrected. We interpreted the lease that we are subordinated to everything going before. If there is some quirk in this, something we do not see, wherein we come in on a parity, what harm is there in explaining it at this point, so we can see the reason for the position that various witnesses have taken? I appreciate the fact that this is a law point. Lots of things have been law points that Mr. Gross has been elucidating for us.

Mr. GOULDING. I apprehend the law points in this case will be very important; and whether you call them quirks or what you call them, it seems to me the opinion of a lawyer on them is not competent evidence. This question of whether these non-permanent grantees or lessees are all on a parity is an interesting law question, but it is an opinion on it, and my opinion will probably agree with my friend's on the other side as a piece of theory, and we shall make such arguments as address themselves to us in view of the practical relations. But as a theory—now I should respect Mr. Gross's opinion very much, and I am afraid the Commission might too much, if he should give an opinion against us—I don't know whether he would or not, but he would if he thought so.

The CHAIRMAN. I suppose, strictly speaking, we cannot ask his opinion on a question of law. If there is any fact which enters into this we can get it.

Mr. MATTHEWS. Then I will not press the question.

Mr. GOULDING. My associate thinks we had better withdraw our objection. I want Mr. Gross, if he can, to get through tonight.

Q. The objection is withdrawn, Mr. Gross, and I will ask you generally this question—to explain to the Commission your views as to whether or not the various lessees of non-permanent water power along the first level canal stand on a parity as among themselves or as against the company?

Mr. BROOKS. You mean theoretically or practically?

Mr. MATTHEWS. Either way; let him answer it either way. Theory and practice, law and fact; we want all the light on this subject we can get, because we can see that it has a most important bearing upon the value of this water power.

A. I can say properly that it is impossible for me to give any-

thing more than my understanding of the matter, for I have not examined the leases except in a very few cases. I cannot say, therefore, of my own knowledge, that the leases down to a year ago were all alike in terms. I cannot say that the provisions of the ordinary leases of non-permanent water are the same as those in this lease contained. Therefore, I am unable to answer your question.

Q. Can you tell me how many leases of non-permanent power have been issued by the company? A. I cannot.

Q. Then you would qualify your answer given a moment ago to my question, which answer was, as I remember it, that the lessees of non-permanent power stood on a parity, by stating that you feel unable to answer the question? A. You asked me if the city of Holyoke would not be subordinated to all previous leases in my opinion. I said, no, sir. I think that is a different statement from the way your question is now put.

Q. I see. Now will you explain that answer? A. The question whether this lease will subordinate the city of Holyoke to all former leases is a question which can only be answered by an examination of those leases. Whether they take priority in time depends upon their terms entirely. My understanding has been that they did not take priority by reason of the grant.

The CHAIRMAN. But that is merely an understanding, Mr. Matthews.

Q. Then, Mr. Gross, in order to determine whether or not the city of Holyoke, if it takes this lease, is subordinated to all prior lessees, the terms of each and all of those leases must be considered? A. I should say so, sir, if that question was to be asked.

Mr. MATTHEWS. If your Honors please, that answer of Mr. Gross, which was one of the facts which I hoped to elicit from him when I began this line of examination, is exactly in accord with the theory which we have entertained of this case—of the water power features in it—from the beginning, and which we have mentioned once or twice in the course of the evidence; and that is this, that you cannot value the water power which is under investigation in this case without the production and inspection of all the leases hitherto granted by the Holyoke Water Power Company. We have asked for the production of those leases upon several occasions. We think that Mr. Gross' answer to the

last question indicates very clearly the necessity for a marshalling of the facts contained in those leases, if not for a production of the documents themselves. We should hesitate to encumber the records with all the leases that have been granted by the Holyoke Water Power Company since the year of its incorporation, or by the South Hadley Falls Company prior thereto, if there are any such outstanding. But we think, with Mr. Gross, that the facts contained in those leases ought to be presented in some shape, and ought not to be barred out on the ground of the ancient date of some of the leases.

Mr. GREEN. I have just suggested to Mr. Goulding that we might agree upon what the facts were, so far as necessary, to bear upon this aspect of the case, and save putting in all that—I was going to call it “truck”—putting in all those leases—and he thinks we might very well do it.

Mr. BROOKS. I thought you informed us early in the week that you had the whole record looked up, that you were prepared with your knowledge. The leases are all a matter of record.

Mr. GREEN. We were only stating our conclusion to see if we could avoid putting in all the leases.

The CHAIRMAN. What do you mean? Are they not very nearly identical in phraseology?

Mr. MATTHEWS. Each one would have a different mill power, very likely.

The CHAIRMAN. That might be so.

Mr. MATTHEWS. The phraseology might or might not be the same.

Mr. BROOKS. The proposals and terms are the same, I think.

The CHAIRMAN. I should not think it would be very difficult to agree upon that. You could get your facts together without much trouble.

Mr. GOULDING. I suppose we could agree upon it if my friends know. I do not know what is in those leases, and I will say right here that, subject to further correction and subject to further consideration, it does seem to me if a man or a company owns a large amount of water power proceeding from a river or a reservoir, and grants to A, B, C and D rights to a certain extent out of it, unless he puts in an exception to the effect

that he has a right to limit that grant by some subsequent grant—unless he puts in some such exception, that in theory every last grantee would be subject to the previous grants. I cannot see any escape from that at this moment. I do not imagine that we shall in the end contest that proposition as a theoretical proposition. But there are other facts in the case which have already been put in, which, as we say, make that circumstance fail to affect the practical value of the present grant or proposed lease at all. I am perfectly frank to say, the way it strikes my mind, that unless there was an exception in the prior leases of a right to derogate from that grant, each last grantee would be subject to all the preceding grants.

The CHAIRMAN. If there is water enough for all, no one need kick.

Mr. GOULDING. We cannot grant again what we have once granted, it seems to me.

Mr. GREEN. Then it seems to me the thing for us to do to shorten it up, is for Mr. Goulding and Mr. Brooks and myself or some of us to determine whether there is any condition in any lease which reserves any such right. I am instructed by a gentleman who, at my request, went through these, that there is none.

The CHAIRMAN. That there is none?

Mr. GREEN. I have been so informed. That is not an authoritative statement; I have been so informed.

Mr. GOULDING. If anything is agreed to upon it we shall want to have it appear that the Company has made so many grants, showing what there was in them. If they should be anything like the leases that were put in, we could say so. That theory which my friends on the other side think is of so much importance does not strike me as of any importance, if it is a fact.

Mr. MATTHEWS. Are we to understand, then, that it is admitted, subject to subsequent correction, that none of the leases shown upon Mr. Sickman's schedule contain any such reservations?

Mr. GOULDING. I do not know what is in them, I am sure. I do not want to agree to anything that is in a written paper that I have not seen, of course. I was simply stating a general proposition of real estate law.

The CHAIRMAN. I should think that between now and

next Wednesday Mr. Green or Mr. Brooks or Mr. Goulding might make an abstract that might cover the whole business. Does the record show definitely the relations of the permanent water power with reference to the second?

Mr. MATTHEWS. You mean the records of the leases?

The CHAIRMAN. The number of the permanent? I do not know as there is any relation—

Mr. GOULDING. The list gives—

The CHAIRMAN. Very well, that is enough.

Mr. MATTHEWS. This list gives all the leases which this Company has yet issued, and it also gives some information—

Mr. GOULDING. It gives the amount of power, doesn't it?

Mr. MATTHEWS. The power which has not yet been leased, but is owned by the Company itself. It states the amount of power in each case.

Mr. BROOKS. Why should you go away from the first level canal to determine the question which you desire determined?

Mr. MATTHEWS. Because your second clause indicates here, as Mr. Gross has himself explained this morning, that the leases on the second and third level canals have some rights. I thought Mr. Gross gave a very clear explanation of that this morning; it seemed to me that he showed conclusively that the mill sites on the second and third level canals did have some rights in the water of the first water level canal. Is not that so, Mr. Gross?

The WITNESS. I don't know whether I made it clear or not.

Q. It is a fact, isn't it? A. I testified this morning—

Q. It is a fact, isn't it? A. I so understand it, that they have certain rights.

Q. Certain rights, yes. Consequently all the leases must come into the case, and not simply those on the first level canal. Passing this question for a moment, in the hope that we may before the next hearing reach some agreement with the gentlemen on the other side—

The CHAIRMAN. You speak of the next hearing; aren't you going on tomorrow?

Mr. MATTHEWS. I meant the hearing next week.

Mr. GOULDING. We are coming tomorrow, I suppose?

Mr. MATTHEWS. Oh, yes, we are going along.

Mr. GOULDING. Mr. Gross wanted to go to Hartford to-night.

The WITNESS. I will stay, sir.

Mr. MATTHEWS. You need not stay; you can come just as well next week.

Q. I suppose, Mr. Gross, that all the permanent power along the first level canal has been leased? A. No, sir.

Q. I mean always, excepting Sundays and holidays? A. There is a certain amount that has been reserved for the property—mill sites owned by the Company.

Q. And that quantity is what appears in clause 2 as “appropriated by the grantor for its own use and the use of its tenants”?

A. Yes, sir.

Q. That is the 17 mill power? A. Yes, sir.

Q. With the exception of the 17 mill power thus reserved—by the way, has there been any other mill power along the first level canal reserved or appropriated by the Holyoke Water Power Company for its own uses besides these 17 mill power?

A. Not to my knowledge; no, sir, I think not.

Q. Then my question is this: is there any permanent power left on the first level canal beside that already leased and the 17 mill powers reserved? A. I understand not.

Q. What data have you for determining that fact? A. None, if I understand your question correctly, except that the records of the Company show the grant of a certain number of permanent mill powers and the reservation of a certain number as applicable to certain mill sites, upon the first level canal.

Q. How do you know that the number of mill powers granted and the 17 mill powers reserved together exhaust or equal the permanent capacity of the first level canal? A. Only from experience.

Q. Do you mean from data or records of your experience which have been preserved? A. That I cannot say.

Q. Does not the Company have some record of the flow of water in the first level canal which enables you and the other officers of the Company to form the opinion that there is no more permanent power in that canal? A. That I cannot answer, for this reservation has been for a number of years standing, and this computation was made many years ago.

Q. That reservation was made in 1882, wasn't it, or 1881?
A. As long ago as that, sir; I cannot give you the year.

Q. And it was made, was it not, at or about the time when you made your first lease of so-called non-permanent power? A. That I cannot answer.

Q. Well, as you understand it, the permanent power of the first level canal has been exhausted for about twenty years; that is to say— A. With the reservation of the 17 mill power, yes, sir.

Q. That is to say, has been either granted or is in the 17 mill power reserved? A. So I have understood.

Q. For the past twenty years? A. The period of time I cannot say, Mr. Matthews, because I have not—

Q. It was about twenty years ago, was it not? A. All I know is, generally speaking, that it has been a number of years since that determination was made.

Q. Will you kindly see that the records or data tending to show the maximum amount of permanent power in the first level canal are produced at the hearing next week? A. If we have any; I do not know whether we have or not, sir.

Q. Are there any records enabling you to ascertain the amount of surplus actually drawn or used by the mills under the fourth clause, which is as follows:

“The quantity of water per second equal to 50 per centum of the sum of the three quantities already named as granted or appropriated.”

A. The books of the Company undoubtedly must show.

Q. Do not the books of the Company contain records showing, first, the amount of water available in the first level canal; secondly, the amount of water actually used by the lessees of permanent power, and, thirdly, the amount left over? A. I cannot answer so far as the amount of water available. I think they do as to the others.

Q. Will you look that matter up and see that we are furnished with any records or data that the Company possesses upon that point? Mr. Gross, are you aware of any records which the Company possesses showing or tending to show the amount of daily flow of water through the first level canal? A. Personally I have no knowledge of such a record.

Q. Will you kindly make a note to have those records produced, if any such exist? I understood you to say that the head gates had not been closed for three years. A. No, sir.

Q. What did you mean by that? A. You misunderstood me.

Q. I thought I must have, but I should like to know what you did mean. A. The head gates were closed in 1899, for the first time then, I understood, in about three years.

Q. You mean the head gates of the canal? A. The head gates of the canal. Mr. Matthews, may I ask one question as to the daily flow? Do you mean the daily flow of the river or the daily flow in the upper canal?

Q. In the upper canal. The daily flow of the river, too, if you have them both. Anything that you suggest we will ask for, but what we want particularly, of course, is the flow of water in the upper canal. Now, will you explain discursively what you meant by that statement about the head gates being closed? And how do you get the water out of the canal without closing those gates? A. Undoubtedly there have been times when during repairs the head gates of the canal have been closed when the water has been drawn off. I had reference and supposed that you directed your question to the closing of the gates and allowing no water to come into the canal for the purpose of furnishing that water to the lessees.

Q. That would take place, would it not, whenever the canals had to be repaired? A. Undoubtedly, sir; but that has generally been on Sundays and holidays.

Q. Is there not a general shut down in the summer along about the Fourth of July? A. That is a holiday.

Q. Well, several days before or after? A. Sometimes it has lasted over, but I do not know of my own knowledge how long it has continued.

Q. You are going to give us the data or records on that point, I understand? A. I will endeavor to.

Q. You said that you were obliged by the terms of some of the leases not to charge less than a certain sum by way of rent for permanent power? A. Yes, sir.

Q. Can you tell the sum? A. No, sir. There is no sum mentioned; it is 260 ounces of bar silver, Troy weight.

Q. That was the old rent? That was the rent that was formerly paid, was it not? A. That is the rent that is provided in nearly all of the leases as the minimum.

Q. Is not that the rent that the lessees themselves paid under the early leases? A. Under most of them, yes, sir.

Q. And what is the equivalent of that amount in silver at the present time? A. I do not know; about \$150 or \$160.

Q. That is for a day mill power, is it not? A. That is for a day mill power.

Q. In other words, the present equivalent of that rent is about \$300 for a 24-hour mill power, is it not? A. Yes, sir.

Q. \$300 a year? A. \$300 in currency; but of course, at the present value of silver, bar silver is not worth currency.

The CHAIRMAN. We will stop until tomorrow morning.

Mr. GOULDING. You are coming back next Wednesday?

The WITNESS. I will, sir.

Mr. GOULDING. It is understood that further cross-examination and re-examination is suspended—

Mr. MATTHEWS. I am all through.

(Adjourned to Wednesday, Nov. 28, at 10 A.M.)

FORTY-SECOND HEARING.

BOSTON, Wednesday, Nov. 28, 1900.

The Commission met at the Court House at 10 A.M.

DANIEL O'CONNELL, *sworn*.

Direct examination by Mr. GREEN.

Q. Your name is Daniel O'Connell? A. Yes, sir.

Q. You live in Holyoke, Mr. O'Connell? A. Yes, sir.

Q. How long have you lived there? A. Fifty-three years.

Q. You are a member of the firm of D. O'Connell & Sons?

A. Yes.

Q. What is your business? A. Contracting, teaming.

Q. Whether or not you have had experience in the laying of pipe? A. Yes, sir.

Q. In the city of Holyoke? A. Yes, sir.

Q. I don't know that you have laid gas pipe? A. No, sir.

Q. Have you laid water pipe? A. Yes, sir.

Q. And you say you have laid it in the city of Holyoke? A. Yes, sir.

Q. How much of it? A. Well, in the neighborhood of twelve miles, 12 or more.

Q. Twelve or more miles in the city of Holyoke? A. Yes.

Q. And you have had charge of the work yourself? A. Yes, sir.

Q. Whether or not you have laid water mains outside of Holyoke? A. Somewhat, not many.

Q. Whether or not you have done work in New Bedford? A. Yes, sir.

Q. Whether or not you have had experience in laying pavement, taking up pavement and relaying pavement in Holyoke? A. Yes, sir.

Q. I don't know but in time past you have had charge of the streets of the city of Holyoke? A. Yes, sir.

Q. As superintendent of streets? A. Yes, sir.

Q. How many years ago? A. About 22 years since I got through there.

Q. And did you have experience then in laying pavements?

A. I have laid pavements, that is, granite pavement, after that more.

Q. I mean at the time whether or not you had experience. Since then you have laid pavement as a contractor? A. Well, since I got through with being superintendent I got to be a contractor. I have had a good deal to do with paving all my time, since I got to be able to do anything.

Q. You are familiar with the nature of the soil in Holyoke?

A. Yes, sir.

Q. Whether or not you have estimated the cost to lay new the gas mains of the city of Holyoke as of January, 1898? A. Estimated the cost?

Q. Yes. A. Yes, sir.

The CHAIRMAN. He knows the present depth, I suppose—at the present depth.

Mr. GREEN. I will ask him, your Honor.

Q. At what depth have you estimated you laid them? A. I figured to cover all pipes three feet or more.

Q. Have you your figures? Have you your schedule with you? A. Yes, sir.

Q. Produce it, please. (The schedule was produced.) Now have you a schedule showing the cost of furnishing and laying gas mains and services of the Holyoke Water Power Company in January, 1898, and also relaying the pavements? A. Yes, sir.

Mr. GREEN. I offer this schedule in evidence.

(Schedule of Daniel O'Connell of cost of furnishing and laying gas mains and services of Holyoke Water Power Company in January, 1898, also relaying pavements, marked "Exhibit 121, W. L. H.")

[EXHIBIT 121.]

**SCHEDULE OF COST OF FURNISHING AND LAYING GAS MAINS AND
SERVICES OF HOLYOKE WATER POWER COMPANY IN JANUARY,
1898, ALSO RELAYING PAVEMENTS.**

By Daniel O'Connell.

Pipe.	Weight per ft.	Cost delivered per ft.	Trenching and refilling per ft.	Laying per ft.	Lead per ft.	Complete per ft.	Total cost.
440 ft. "	15 in. 100 lbs.	\$1.00	\$0.25	\$0.10	\$0.09	\$1.44	\$633.65
10,475 " "	12 " 70 "	.70	.20	.08	.07	1.05	10,998.70
5,904 " "	8 " 40 "	.40	.16	.05	.05	.65	3,876.64
32,033 " "	6 " 28 "	.28	.15	.03	.03½	.40½	15,856.36
28,781 " "	4 " 19 "	.19	.12	.03	.02½	.36½	10,505.04
68,219 " "	3 " 12 "	.12	.09	.03	.02	.26	17,736.63
1,953 " "	2½ " —	.11	.09	.01	—	.21	410.10
7,895 " "	2 " —	.08	.09	.01	—	.18	1,421.18
6,776 " "	1½ " —	.05	.09	.01	—	.15	1,016.40
3,127 " "	1 " —	.04	.09	.01	—	.14	437.74
2,824 " "	1½ " —	.06	.09	.01	—	.16	451.80
30,000 " "	1 " services	.04	.09	.01	—	.14	\$63,344.54
							4,200.00
							\$67,544.54

Granite blocks, \$2.12 per yd. laid (labor and materials)	14,576 lin. feet at 0.13½ =	\$1,967.76
Block asphalt, 2.75 " " " " " "	3,817 " " " .13½ =	515.29
Tar pavement, .80 " " " " " "	560 " " " .27 =	151.20
Brick " 2.25 " " " " " "	3,714 " " " .15 =	557.10
Macadam " .90 " " " " " "	4,604 " " " .30 =	1,381.20
		\$4,572.55

Q. Mr. O'Connell, what do you say would have been the cost to have laid the mains new in January, 1898? A. In laying them?

Q. Yes, furnishing and laying.

The CHAIRMAN. Both?

Mr. GREEN. Yes, both—the total.

Q. What would have been the total valuation for furnishing and laying the gas mains, not the services and pavements? Just the gas mains, the total cost. A. Well, I have got so much for various kinds of pipe and then carried out the sum total.

Q. Yes. Now give me the total and I will take up the details in a minute. A. I have got \$63,344.54.

Q. Now for the services—what is your figure for the services? A. \$4,200.

Q. And give me your total figure for relaying the various pavement, the granite blocks, block asphalt, tar, brick and macadam; that is, the total figure for it all. A. \$4,572.55.

Q. Now, these prices, as I understand, that you give us, are for laying new—for laying them new. You have allowed nothing for depreciation for age or anything of that sort. You have taken them as to what it cost to lay them new in 1898? A. Yes, sir.

Q. To show your method, take the larger pipe, the 15 inch pipe. There are 440 feet of it? A. Yes, sir.

Q. And you give us next the weight per foot, 100 pounds. A. Yes, sir, 100 pounds to the foot.

Q. The next column is the cost delivered per foot. What does that include? A. I have got it \$1. It includes the cost of cartage in that price of pipe.

Q. The pipe and the cartage? A. Per foot.

Q. Then your next column is trenching and refilling per foot. What foot is that? A. A lineal foot.

Q. A running foot? A. Yes, sir.

Q. And the same for the laying, that would be a running foot? A. Yes, sir.

Q. In the next column you have lead. A. Well, I haven't given you that trenching.

Q. Trenching would be 25 cents, as I understand. A. For one kind of pipe.

Q. I am talking now about the 440 feet. A. Yes, sir, 25 cents a foot.

The CHAIRMAN. There is a practical question here. For instance, the street mains—if I am interrupting you tell me to be quiet—Mr. Allen puts it 440 feet of 15 inch at \$1.25, \$550. Your witness puts it at \$633.60. Next is 10,475 feet of 12 inch. Mr. Allen puts that at \$10,475, and your witness at \$10,998.75. Do you need to spend much time on those two items?

Mr. GREEN. If our friends on the other side will restrict their estimates on those particular pipes to Mr. Allen's figures on those pipes we do not, but they have other witnesses very much higher.

The CHAIRMAN. Well, perhaps I am talking about something I don't know anything about.

Mr. GREEN. I will agree to Mr. Allen's figures on those particular pipes.

The CHAIRMAN. Go ahead in your own way.

Mr. BROOKS. Would you agree to Mr. Allen's total?

Mr. GREEN. We do not agree to Mr. Allen's total.

Q. Now, coming to the column of lead per foot—I am using this simply as an illustration—what does that amount to? A. 9 cents.

Q. How do you get at the lead per foot? A. Well, I got the price of lead per pound at the time the schedule was made, a year ago about now, and I added—let's see, yes—call the lead so much a pound, that is what makes it.

Mr. BROOKS. What makes it.

The WITNESS. 9 cents per foot.

Q. I don't think you quite understood what I meant. How long were the joints of pipe? A. This is a 15 inch I am speaking of.

Q. How long are the lengths of pipe? A. 12 feet.

Q. Then how do you get at the lead per foot? A. There are so many pounds to a joint, and then divide that into 12, and it leaves so much to a foot.

Q. And do you use that method in each case in getting at the item of lead? A. That is the way I did it, yes, sir; get the amount of lead for each joint, and that gives you the number of pounds per foot for each slice.

Q. I won't go through with it, that is, I won't take up any further items there, and I take this as merely illustrative. Until you get down to the 2 1-2 inch pipe—I notice from the 2 1-2 inch down you allow nothing for lead per foot. Will you just tell why? A. Don't use lead. Those are screwed together, wrought iron pipes.

Q. Pass down for a moment now to the granite blocks and the pavements. A. Yes, sir.

Q. You have figured 14,576 lineal feet of granite blocks at 13 1-2 cents. A. Yes, sir.

Q. That is a running foot, the same principle as you have used in the rest? A. Yes, sir.

The CHAIRMAN. What is this at the bottom of the page, granite blocks and block asphalt?

Mr. TURNER. It is the paving over the pipe.

The CHAIRMAN. Is that to be added to the \$67,000?

Mr. GREEN. I suppose that would make the total cost of re-laying new, yes, sir. We keep them in separate items for the

purpose of comparison with the other schedules, which were figured separately in most instances.

The CHAIRMAN. Then you have got \$4,572.55 to be added to that.

Mr. GREEN. I have no doubt that is so. I want to state, so that your Honors can keep this matter of comparison in mind, that in most instances the witnesses called by the Company kept their mains and services and pavements separate, though in some instances they did not. For that reason, in order to follow, we have done the same. The services we have estimated as being laid as of one particular time and keep them in an item by themselves, and the mains by themselves, and the pavement by itself, so it will be easier to draw comparisons.

Mr. COTTER. I notice, gentlemen, that the appraisals in most cases are made as of January 1, 1898. Do you agree that the damages are to be assessed as of that date?

Mr. GREEN. I do not think I should care to bind my clients by any statement of our agreement at the present time, so far as I am concerned.

Mr. COTTER. That is a question we will have to deal with at some time. I saw the appraisals were confined to that date.

The CHAIRMAN. There is some question as to other dates.

Mr. BROOKS. There might be some doubt as to whether your Honors would come further along with the valuation; we put in some testimony that the prices would be very largely increased if they were to be valued as of a later date.

Mr. COTTER. I remember Mr. Fowler so testified.

Mr. BROOKS. Yes, sir.

Mr. COTTER. Finding the inquiries were made as of January 1st, 1898, I did not know but possibly there was some understanding between you.

Mr. GREEN. No, sir, there is no understanding so far as I am concerned. We have got to deal with laying them and doing the work new as of some particular time. It is the best way we could think of, to start with that date as a foundation. Of course we should claim there had been a vastly greater depreciation since that time, and our friends claim there are higher prices. What those higher prices will be by the time we get to the end of this case we have no way of knowing.

Mr. COTTER. But the date of the assessment of damages you are not prepared to agree about.

Mr. GREEN. I shouldn't want to say we would agree. We have had no talk about it, and I should not want to commit our side at all.

Cross-examination by Mr. BROOKS.

Q. When was this schedule made up? A. At my house.

Q. When? A. About a year ago.

Q. Is this the result of your own personal work? A. Yes, sir. That is, my son furnished me the weights of the lead and iron.

Q. That is, you took the weight of the pipe from what your son told you? A. Yes, sir.

Q. And you took the weight of the lead for the joints from what your son told you? A. Yes, sir.

Q. And with those two exceptions, do you say that it is all the result of your own efforts? A. I made all the figures; that is, I dictated—I dictated the prices of all the items.

Q. That is, having found from him the weights of the lead and the pipe, you formed an opinion as to the price? A. I added the cartage to it.

Q. Mr. O'Connell, which costs the most per ton, a 12 inch pipe or a 3 inch pipe? A. In drawing it?

Q. No, which costs the most? A. I didn't know as there was any difference in the cost. I don't know.

Q. You can't say whether there is a difference or not? A. No, sir.

Q. That is, it didn't occur to you that the 3 inch pipe cost more per ton than the 12 inch or 15 inch pipe, for instance? A. I don't know.

Q. Do you know whether or not these different sizes of piping vary in the cost per ton in accordance with the size? A. I don't know, sir.

Q. The lesser sizes costing more than the larger sizes per ton? A. That I don't know.

Q. You can't say as to that? A. No.

Q. When did you ever lay any gas pipe? A. I never laid any gas pipe.

Q. When was the last water pipe that you ever laid? A. Two years ago.

Q. Where? A. Well, for the city of Holyoke. I think it was two years, if I remember right.

Q. Has your son ever laid any gas pipe, to your knowledge? A. Not to my knowledge.

Q. Did you ever purchase any gas pipe? A. Only service pipe.

Q. I am talking now about the mains. A. No, sir.

Q. The gas mains—did you ever purchase any? A. No, sir.

Q. Or have anything to do with the purchase? A. No, sir.

Q. Now you made no purchase of water pipe, did you? A. No, sir.

Q. Neither has your son? A. No, sir.

Q. Your experience with reference to piping has been confined to the laying of the pipe? A. Yes, sir.

Q. And that is the experience also, and the only experience, of your son and your firm? A. As far as I know.

Q. You say you made this estimate a year ago? A. Yes, sir. That is, the figures were made.

Q. You made the figures a year ago? A. But there has been a new schedule made. There was 30,000 feet of 1 inch service pipe added to it since it was made. That was put on here the other day when the new schedule was made, but there has been no change in the figures.

Q. There has been no change in the other figures? A. No change.

Q. You simply added the \$4,200 for service pipe? A. 30,000.

Q. But it is \$4,200? A. Yes, sir.

Q. Do you know whether or not water mains are cheaper per ton than gas mains? A. I don't know.

Q. Your estimate is based upon what you have learned with reference to the price of water mains? A. Iron pipe.

Q. That is, it is based upon what you have learned from some source? A. Yes, sir.

Q. As to the price for water mains? A. That is all, sir.

Q. And that came to you from your son? A. He got it from some other source, I don't know who, whether the Water

Power Company—I would say the city of Holyoke, or where he got it.

Q. That is, your son, you think, from some source found out the prices? A. Yes, sir.

Q. And he transmitted his knowledge to you and you put that knowledge on paper? A. Well, he got it direct from those—

Q. From some source? A. From those that were dealing in pipes.

Q. Well, you think he did, and he transmitted that knowledge to you; is that so? A. I think he did. I know he got it.

Q. Well, he got it. All right. He gave his knowledge to you, and that piece of knowledge is put here upon paper in your schedule. That is right, isn't it? A. Yes, I have no other means to get it.

Q. How deeply, in your estimate, do you lay these gas mains? A. Well, I am informed that 3 feet of covering is sufficient for all gas pipes, and that is what I figured on.

Q. How deep do you dig your trenches? A. Well, it depends on the size of the pipe.

Q. Take 15-inch pipe. How deeply do you dig the trenches? A. You have to dig a ditch for that about 4 1-2.

Q. You say about 4 1-2. Didn't you have the exact figures in your mind? A. Yes.

Q. Then how deeply for your 12 inch? A. Well, it would be the same proportion right along.

Q. I know; but how deep is your trench for your 12-inch pipe, if you can tell me? A. Why, go down 4 feet.

Q. How deeply do you lay your 1 1-4 inch? A. You would go down 3 feet and an inch and a quarter, I suppose, to be exact about it.

Q. I am not asking for your supposition; but did you go through and estimate, when you came to consider this question, just how deeply you would lay these various sizes of pipe? A. Well, we don't stand about an inch, Mr. Brooks; in laying a depth of pipe, as a rule, when we are digging, we make it 2 or 3 inches deeper than what they call for, but we calculate to get them that depth, you know.

Q. Where is there anything allowed for gates or valves in your estimate? A. No, sir, I have not.

Q. Did you know how large an item they were? A. I don't understand.

Q. Do you know whether there were such things as gates or valves connected with these gas mains? A. There was nothing of that kind brought to my notice at the time.

Q. So you made no allowance for that? A. No.

Q. What did you allow for fittings, elbows and T's? A. I haven't allowed anything particular. That is, I haven't anything of that kind separate. I haven't got any fitting separate.

Q. You haven't any fittings allowed for? A. No fittings separate.

Q. Have you allowed anything for fittings? A. Not that I know of.

Q. Neither have you allowed anything for the valves or the gates? A. No, sir.

Q. Do you know yourself how much lead is required for a 12-inch joint? A. Well, I don't know it myself only as I get it through other parties.

Q. From where? A. From the city engineer.

Q. Who was that? A. Mr. Tighe, Mr. James Tighe, city engineer of Holyoke.

Q. For a 12-inch joint how much did you allow—how many pounds of lead? A. 12-inch joint, 13 pounds.

Q. A 12-inch joint? A. 12-inch pipe.

Q. And how much did you allow per pound? A. Well, I will tell you. I got the price at that time for lead, at the time the schedule was made.

Q. How much did you allow per pound for lead? A. A pound?

Q. Yes. A. From memory, I don't know.

Q. You can't tell; very well.

Mr. GREEN. Have you got anything there outside of your memory?

The WITNESS. Well, I have got so much a foot for lead.

Q. I am asking you how much you allowed for lead per pound.

Mr. GREEN. Well, can't he work it back? He can tell you, probably.

Mr. BROOKS. I don't say he can't, I am simply repeating my question.

A. Well, I think it was somewhere about 5 and one-quarter cents—I think so—somewhere in that neighborhood. I don't remember what price was given to me at the time.

Q. How much did you allow for the iron per ton? A. Well, I have got it, the weight per foot here, 100 pounds.

Q. My question is, what is the price you put upon it per ton, for your iron pipe? Take, for instance, the 15-inch iron pipe, the very first one. A. At the time that I made the schedule I got the price of the iron, and I added the cartage to it at so much a foot. I couldn't say what it cost.

Q. You say you got the price of iron from somebody. Was that from your son? A. Yes.

Q. Now, these various prices, were they given you by your son, Mr. O'Connell? A. The iron and lead.

Q. What did you allow in your lead joints for the yarn? A. Well, I didn't allow a great deal.

Q. Did you allow anything? A. I put that yarn and the coke in with the laying per foot, so little per foot.

Q. Can you tell me how much you allowed for that special item—for the yarn? A. Not exactly, but it was so little trifling per foot.

Q. Was it so trifling that you could not give me any estimate of it? A. Well, I formed no estimate in particular about it. I know what coke was worth, I know what it cost me, and I know yarn isn't worth a great deal per pound.

Q. But you cannot separate it? A. I didn't separate it.

Q. And you couldn't tell me approximately how much you allowed for that particular item of yarn? A. No, so little.

Q. You really didn't allow anything, did you? A. Oh, yes, I called it something.

Q. Can you tell me how much you called it? A. I think so.

Q. If you cannot, I will pass on. A. Let's see. I think I allowed \$2 for 200 feet of the 15-inch pipe for coke and yarn—\$2.

Q. You think you did. Have you anything there that furnishes you that intelligence? A. Yes, sir.

Q. You allow \$2 for the 15-inch? A. Yes.

Q. You think so. And that is included in your laying per foot? A. Yes.

Q. And that is the total allowance for the 15-inch pipe for the yarn? A. Yes.

Q. How much did you allow for the 12-inch pipe? A. Well, I don't know as I—you must excuse me, I am pretty slow about answering the questions.

Q. That is all right, Mr. O'Connell, I don't make the slightest objection. A. Well, I can show you here that I have allowed \$2.

Q. For the 12-inch pipe? A. For the 15-inch pipe, \$2 for coke and yarn.

Q. So you told me. A. Now, I went on the same proportions, I suppose, for the rest of it.

Q. You say you suppose you did? A. Well, I think I did.

Q. That is, you allowed a total of \$2? A. 200 feet.

Q. What is that? A. Of 200 feet.

Q. You allowed a total of \$2 for each 200 feet of each size of pipe? A. 15-inch.

Q. Well, now, you see my question was, how much did you allow for the 12-inch, and then I was going to follow it up, if you could tell me that, by asking you with reference to the other sizes.

A. Well, I told you I allowed the same proportion right along—what a gang of men would lay a day.

Q. Can you tell me how much you allowed for the 12-inch, the 8-inch and the 6-inch pipe? A. Not separately.

Q. For the yarn? A. Not separately.

Q. Then you cannot separate your allowance for the yarn for the lead joints from your estimate of the laying per foot; is that right? A. That is right.

Q. Now tell me what amount of lead you allowed for, for your joints for your 15-inch pipe. A. How much lead?

Q. Yes, in pounds. A. 18 pounds.

Q. You allowed 18 pounds for your 15-inch? A. 15-inch.

Q. And what does that 18 pounds comprehend? A. Well, I got that down—reduced down to a foot.

Q. That means 18 pounds a joint? A. One joint, yes, sir.

Q. Where did you obtain that estimate? A. From the city engineer.

Q. That is, you got that from the present city engineer of Holyoke? A. Yes, sir.

Q. How much is your allowance in pounds per joint for lead for the 6-inch pipe? A. 6 pounds and a quarter.

Q. Six pounds and a quarter for your 6-inch pipe? A. Yes, sir.

Q. For each joint? A. Each joint.

Q. How much did you allow for your 8-inch pipe? A. 8 pounds and a quarter.

Q. For your 8-inch pipe? A. Yes, sir.

Q. And take your 4-inch pipe. A. 4-inch is 4 and a quarter.

Q. And 3-inch pipe, you would allow perhaps 3 and a quarter pounds of lead per joint? A. Yes, it would be that proportion.

Q. And all these estimates you have taken from the city engineer? A. Yes, sir.

Q. When did you obtain those estimates from him? A. Well, I got these estimates here about two weeks ago, two or three weeks ago, but my son got them before that, I guess, at the time.

Q. Well, you got them two or three weeks ago, but you think your son got them before that? A. Yes.

Q. What is the width of trench that you estimate for the various sizes of pipe? A. Well, 3 feet is the largest.

Q. 3 feet is the largest? A. Yes, sir.

Q. That would be for the 15-inch pipe? A. Yes, sir.

Q. What is the width of trench for your 12-inch pipe? A. Well, I wouldn't go much less, I wouldn't change much on that.

Q. What is the width of trench for your 8-inch pipe? A. Well, it goes less, a little.

Q. That isn't very definite for me. We want it for a special purpose. How much do you allow in digging a trench for your 8-inch pipe? A. Well, might go a few inches, say 6 inches less.

Q. When you came to make your estimate did you make an estimate of the width of the various trenches for the various sizes of pipe? A. I form an idea of what I could go down that depth for—the width.

Q. Did you form an accurate conclusion in feet? A. Yes.

Q. For the width? A. Well, yes, to go down and do my work.

Q. Now, you say for your 8-inch pipe it would be 3 feet. A. What do you mean, 3 feet wide?

Q. Yes. A. No, sir.

Q. 2 1-2? A. About 2 1-2.

Q. And for your 6-inch pipe? A. I wouldn't go much less.

Q. It would be about 2 1-2? A. Yes.

Q. And for your 4-inch pipe? A. Well, not but a little less.

Q. Well, how much? A. Oh, 2 feet would do for that.

Q. And for your 3-inch pipe? A. Well, 3-inch pipe you wouldn't go much less.

Q. 2 feet, then? A. About 2 feet.

Q. And for your 2 1-2-inch pipe 2 feet? A. Yes, sir.

Q. For your 2-inch pipe 2 feet? A. Yes.

Q. For your 1 1-4-inch pipe 2 feet width? A. Yes.

Q. And for your 1-inch pipe 2 feet width? A. Yes.

Q. And for the 1 1-2-inch 2 feet? A. Yes, wouldn't make any changes.

Q. Then if there is no difference in the width of these, take the 8-inch and the 6-inch and the 4-inch pipe—if there is no difference in the width why did you make this difference in the amount of refilling? A. I don't know as I say anything about refilling there, do I?

Q. Oh, certainly. Don't you know whether you say anything about it or not? A. Refilling, yes. Excavating and refilling.

Q. Didn't you estimate the refilling? A. Yes, sir, I did, sir.

Q. Then if you have trenches of the same width why do you make a difference in the amount of refilling? A. Well, I say that I don't vary much in the ditch, in digging a ditch, from 4-inch down.

Q. I know it. You told me that in your 6-inch and 8-inch and 4-inch pipe you made no difference in the width of your trench. A. I don't have to dig so deep for them.

Q. Didn't you tell me that you had them of the same depth? A. I go pretty narrow—slope in fast when you get down.

Q. For your 8-inch, 6-inch and 4-inch pipe you had the same depth, didn't you? A. No, I don't go the same depth.

Q. Then I will run back over it with you. For your 4-inch pipe how deep do you go? A. Well, I go, I would say, 3 feet and 4 or 5 inches, 4 inches say; go 3 feet and covering, that is my idea.

The CHAIRMAN. Then it is the width of the pipe after that 3 feet; it is the depth of the pipe after that, of course.

Mr. BROOKS. You see what I am getting at, may it please your Honors, is the difference in refilling which he has specified.

The CHAIRMAN. He goes down 3 feet for all pipe, and when he strikes a pipe 3 inches wide he goes down 3 inches more; if he strikes a pipe 15 inches wide, he goes 15 inches more.

Mr. BROOKS. That is hardly it, I think, if I may be allowed to express an opinion on his evidence. He has told me at one time that he has had the same depth and the same width for these sizes of pipe.

The WITNESS. No, I don't. I didn't say so.

Mr. BROOKS. That is the testimony of the witness.

The WITNESS. I didn't say that I dug the same depth for all sizes of pipe.

Q. No, I know you didn't, but didn't you tell me that for your 8-inch pipe and 6-inch pipe you had the same depth? A. No, I didn't; I said I had about the same width.

Q. I thought you told me that. Now what is the difference between your 8-inch pipe and the 6-inch pipe? A. The difference in the size, that is all.

Q. Mr. O'Connell, from whom did you obtain your valuation of the services and of the laying of them? A. The laying of them, well,—

Q. I will separate my question. From whom did you obtain your valuation for the 1-inch services? A. Well, I couldn't tell you where it came from, so far as the value of the pipe; but the value of laying them, the price of laying them, I know that—that is, I know what it would cost to lay them. It don't take any great expert to lay them.

Q. Well, I didn't quite ask you that. I suppose it is evident that that is true. Don't you think it should cost more per foot for services laid at odd times, and as they are called for from time to time, than for the ordinary pipe?

Mr. GREEN. He isn't laying them this way.

Mr. BROOKS. That doesn't make any difference; I have got a right to ask my question.

A. If you ask me if I thought it would cost more per foot for the iron—did I understand?

Q. Certainly, complete. A. Well, I don't know. I can't answer.

Q. You can't tell about that; very well. In your estimate of paving, Mr. O'Connell, do you take up the paving and replace it? A. I have to when I dig the ditch.

Q. Where does that show in your estimate, the taking up of the paving and relaying it? A. That is considered in the excavation—that is part of the excavation.

Q. Whereabouts on your schedule does that show? A. It don't show.

Q. What did you allow for it? A. I allowed nothing only the excavation; merely take them up and lay them one side.

Q. You have given me the width of your various trenches as nearly as you can? A. I have, on the top of the trench.

Q. Yes, the width of your trenches. A. Yes, but I don't give that width all the ways down.

Q. Well, I have asked you, you remember, about the various widths and you have approximated, as I understand you. You cannot give me it exactly, what you allowed for, but you have tried to approximate the width that you allowed for; is that right? A. Yes, only that I am narrower for the smaller pipe at the bottom than I am for the big one, of course.

Q. Mr. O'Connell, will you look at your schedule under the paving department of it? You have granite blocks at \$2.12 per yard laid, labor and materials? A. Yes.

Q. That comprehends not only the block itself, the cost of the block itself delivered, but also the labor necessary. Can you separate that \$2.12 per yard into the cost of the block delivered and the labor necessary to lay it? A. I haven't separated it here.

Q. Can you do it? A. From memory, the blocks cost about \$1.30 a yard.

Q. \$1.30 a yard? A. Delivered. That is from memory, Mr. Brooks.

Q. That is, you are not sure about that? A. No.

Q. Where did you get that price from? A. That is what we paid a couple of years ago.

Q. What you paid? A. Yes.

Q. You yourself? A. Yes.

Q. Where did you buy granite blocks? A. The last I bought I bought of the Roxbury Granite Company; I don't mean the Roxbury Granite Company, but the Dumeston.

Q. So you think you allowed \$1.30 per yard for the blocks? A. I think so, from memory.

Q. This difference between the \$1.30 and the \$2.12 is the item of labor in laying? A. Yes, sir.

Q. And that is true of the others? A. Yes, sir.

Q. And take, for instance, your block asphalt. How much do you allow, do you think, for the cost of the block asphalt per yard? A. \$2.75.

Q. I am trying to have you separate the cost of labor from the cost of the block itself. A. Yes, sir.

Q. How much do you estimate the cost of the block per yard delivered? A. Well, I haven't got these down to be furnished, I didn't expect there would be anything new, only relaying the blocks.

Q. Is it all labor that you allow for? A. I don't understand now that I have got to furnish any new blocks, but I made a price of what it would cost to relay the blocks.

Q. So, then, it is fair to say that these prices of \$2.12, \$2.75, \$0.80, \$2.25 and \$0.90 are meant for labor alone? A. Oh, no; that is the amount in case you would have to furnish them new.

Q. What? A. That was meant for a price in case you would have to furnish new ones.

Q. All right. Then I run back to my question. How much did you allow for the block asphalt per yard? A. I have got down here \$2.75.

Q. I understand. But separate the cost of the block from the cost of the labor that goes to make up your total of \$2.75, if you can. If you cannot I will let it go. A. 13 1-2 cents.

Q. You allow 13 1-2 cents? A. A foot, a running foot, on the top of the ditch.

Q. Do you mean by that that the 13 1-2 cents includes the price of the block? A. No, the labor and laying them.

Q. Now what I am getting at is how much you allow for the block? A. I allow nothing for the blocks when I lay them for 13 1-2 cents.

Q. Is that true of all these? A. Yes.

Q. Of the granite blocks, the block asphalt and the tar and the brick and the macadam; you allow nothing for the blocks themselves? A. Well, I destroy the tar pavement and also the macadam.

Q. What? A. In taking up and digging this ditch I destroy both the macadam and the tar.

Q. Then the only materials you allow for in your estimate of the paving is for the tar paving and the macadam? A. Yes, sir.

Q. Looking at your schedule, Mr. O'Connell, do I understand that the first half of the paving is a quotation of prices and that the other half is your estimate for the laying? A. Yes, sir.

Q. Well, you told me that, for your granite blocks, you allowed \$1.30 for the block, and that the difference which went to make up the \$2.12 per yard was the labor. Is that right? A. I said that that was the price, if I remember right, that we had paid for blocks. In this case we do not use any block, we do not buy any, we only relay the block where there is there.

Q. Didn't you tell me that the difference between \$1.30 and \$2.12 was made up in the labor? A. Yes, I did.

Q. Well, that is true, isn't it? A. Oh, yes.

Q. Then if that is so, take that first item of granite blocks—instead of 13 1-2 cents it would be 31 cents per lineal foot for labor, wouldn't it? A. That included sand, come to think, the "bediment."

Q. But if in this allowance of \$2.12 per yard laid there is \$1.30 for the block and the rest is labor, why, instead of being 13 1-2 cents per running foot it would be 31 cents, wouldn't it?

Mr. GREEN. Just a moment; the witness has corrected that. It is hardly fair to put that question to the witness. He has just told you that that figure includes sand for the "bediment."

Q. All right. Then tell me how much of that \$1.30 you allow for sand. A. On the sand—I haven't got that separate, I haven't separated anything of that kind.

Q. Then could you separate it? A. I don't know as I could.

Q. When you relaid your paving you had to have new sand? A. Yes, sir.

Q. Take this first item of \$2.12 per yard laid for granite blocks. How much of that \$1.30 is for sand, if anything? A. I couldn't tell you now.

Q. Where do you include your sand—in the labor? A. Well, as for that matter, in furnishing the new and laying them at that price that I give there, I don't know as I could say how I did make that price, any more than I remember of buying blocks two or three years ago for \$1.30.

Q. Then you can't tell me, you can't separate, you say, the material from your labor in these prices that you have made here?
A. Well, I don't know as I can.

Q. You cannot do it. And can you give me any approximation of how much is for material and how much for labor? A. I don't know—for the labor—I have got the labor here, for the laying them.

Q. I understand; but you have put your material and your labor together, haven't you, for the paving I am talking about?
A. Yes.

Q. How much is for labor and how much for material? A. Well, I gave you the labor.

By Mr. COTTER.

Q. How much is for material, if you can tell? A. On the new?

Q. Yes. A. A yard?

By Mr. BROOKS.

Q. Yes, per yard. You have got \$2.12 per yard laid. How much of that is material and how much is labor, if you please?
A. Well, the balance of that would be in sand and labor and carting.

Q. And if that is so, and your granite blocks were \$1.30 per yard, that would be very much more for sand and labor than 13 1-2 cents per running foot, wouldn't it? A. I don't understand you.

Q. You allow \$1.30 for your granite blocks delivered? A. Yes.

Q. And the rest is sand and labor?

Mr. GREEN. The cartage, he said.

Mr. BROOKS. Well, that is delivered.

Q. And the rest is sand and labor. It would amount to very much more, wouldn't it, than 13 1-2 cents per running foot? Do you understand me? A. Well, I don't know how much sand and cartage I did call it; I don't know as I called it; I don't know as I separated it.

Q. Take the very next item, the block asphalt. Can you tell me how much of that is material and how much labor? A. I don't understand that there is any of that to be furnished. We put it in for a guide like.

Q. Well, you have got it; you have got an estimate made on it? A. Yes.

Q. Of 13 1-2 cents? A. Yes.

Q. How much of that 13 1-2 cents is labor? A. All of it.

Q. Then you made no allowance for sand? A. The sand is supposed to be there.

Q. Well, you can't separate it, can you? A. Why not?

Q. You lay your block asphalt, you have got to make an allowance for sand. A. There is sand under it now, isn't there?

Q. Didn't you tell me a little while ago you would have to furnish new sand when you came to relay? A. No, I didn't.

Q. Do you say now you would not? A. I say in case we would have to relay new blocks I suppose we would have to make bed for that, but I don't understand I have got to furnish anything here only the labor.

Q. So your estimate now, you say, is confined to labor alone? A. Labor alone.

Q. Well, then, take your brick paving; you don't allow anything for concrete under it, do you? A. Well, let me see. Yes, I must have allowed for concrete under the paving.

Q. Then take, for instance, your brick paving, and you do furnish something, don't you? A. Yes.

Q. You furnish concrete? A. Yes, sir.

Q. Do you say that that concrete is in your figure of 15 cents per running foot? A. Yes.

Q. How much of it is concrete? A. I don't know.

Q. How much of it is labor? A. The labor and concrete is put together.

Q. Can you separate them? A. I really cannot.

Q. Can you give me any estimate? A. I cannot now.

Q. Or approximation? A. No.

Q. So would it be fair to say that you allowed for your concrete under your brick the difference between 13 1-2 cents and 15 cents? A. Yes; I think I allowed more. It doesn't cost so much to lay brick as the other blocks a foot.

Q. Do you mean that? A. I think that I made a full allowance.

Q. Excuse me. You say it don't cost so much to lay brick as the other blocks? A. No, I think it is more difficult to lay them—to lay the other blocks.

Q. You think it would cost more, do you, for brick? A. I say I think that I allowed the full price, a full amount here, on the concreting for this brick.

Q. Which do you say now is the more expensive to lay, the brick pavement or the other kind of pavement? A. Well, if I was to lay them alone I would rather lay the brick.

Q. You would? A. Yes, I would.

Q. Do you understand they are to be laid in cement? A. Yes.

Q. And you think it is cheaper, do you? You can do it more cheaply than you can the other kind of brick? A. I would rather lay them, I say, myself. I don't know about other people.

Q. I didn't want your personal preference. I am asking now with reference to the cheapness. Which is the more expensive to lay, brick or the other kind of pavement? A. I don't think I made much difference in the running feet—I don't think I did.

Q. Then if that is so, and you didn't make any difference in your labor, then you only allowed the difference for concrete between 13 1-2 cents for your block asphalt and 15 cents for your brick? A. I think that is what I must have done.

Q. Did you ever do a job as cheaply as that, brick pavement laid in concrete, and allow but 1 1-2 cents per running foot for your concrete? A. Well—

Q. Do you recall of ever doing a job— A. Well, we got the prices from other sources, and the concreting—we got what the city of Holyoke paid for these.

Q. These prices for the concrete came from other sources, did they? A. I think we took it from what it cost the city.

Q. You got that from the city engineer, you think? A. No, sir, I don't think we did.

Q. From whom did you get it? A. Well, I think we know how much the city paid for doing similar work.

Q. Do you say that the concrete for brick paving was allowed for at only 1 1-2 cents per running foot? A. I don't remember.

Q. How much profit is figured in here? A. On this work?

Q. In any of these, yes; in this whole estimate? A. Well, I think we figured in about 10 per cent.

Q. Did you figure in a 10 per cent. profit? A. I calculated to get 10 per cent.

Q. In these various items do you mean that you have allowed in every item 10 per cent. for profit to yourself as a contractor?

A. Well, I calculate to get 10 per cent. out of the sum total.

Q. I have no doubt that you calculate to do it when you do the work—really get the job; but have you allowed 10 per cent. profit in each of these various items? A. I think I allowed myself margin enough to get 10 per cent. on the whole thing, and a little better.

Q. Then you think on every one of these items, the cost delivered per foot, for instance, that you have got a 10 per cent. profit figured there? A. Well, I don't know as I could say that I figured 10 per cent. on every item, but I allowed myself—

Q. I am asking, did you figure in the cost of the delivery of this pipe at 10 per cent. profit? A. Yes; I think more.

Q. Now, tell me on your 15-cent pipe the cost delivered; you have got it \$1. A. Yes.

Q. How much of that is profit to you? A. Well, a good deal of it.

Q. Well, how much, if you can tell me? A. Well, is it necessary I should tell what my whole profit is?

The CHAIRMAN. No, not your own, but what you estimate your profit out of this. This is not your job.

Q. That \$1— A. Well, I will tell you.

Q. You have got the cost delivered per foot for your 15-inch pipe \$1? A. Yes, sir.

Q. How much of that is profit? A. Let's see; I reckoned that, I believe; oh, it would be 20 cents.

Q. 20 cents? A. 20 per cent. Let's see; hold on. It will be better than 10, I will say that.

Q. How much do you figure the cost per pound for the 15-inch pipe—running back to the 15-inch pipe? You allowed a cost delivered per foot of \$1? A. Yes. That includes—

Q. How much do you say that pipe cost per pound? A. I don't know from memory.

Q. Give me your estimate. You figured a price on it? A. Yes.

Q. Well, how much does that pipe cost per pound? A. Oh, somewhere in the neighborhood of \$20 a ton.

Q. \$20 a ton? A. I think so.

Q. That would be just a cent a pound? A. I don't know just exactly that.

Q. If you figure \$20 a ton it would be just a cent a pound? A. Yes, sir.

Q. Then you have got just \$1. A. I don't know what I did figure it now, I do not remember.

Q. You have got 100 pounds, and that would be just a cent a pound it would cost you. You haven't figured any profit in that, really, have you? A. Yes, I think I have.

Q. How much wider than the width of your trench do you allow for the relaying of your paving? A. Well—

Q. In each of these different kinds of paving. Take the first one, the granite block. A. Yes.

Q. How much wider than the width of your trench do you allow for the laying of the paving? A. Well, I have allowed about 6 inches, I guess, somewhere in that neighborhood.

Q. You mean by 6 inches 3 on each side? A. Yes. Some would give more and some less.

Q. I am talking now about the granite block. You think a fair estimate would be 3 inches on each side? A. I don't remember what allowance I made.

Q. Can you tell me anything about what allowance you made? A. I don't remember what allowance I made; I think I made some allowance.

Q. Did you make any allowance? A. I think I did. I don't know.

Q. How much would you make now? A. For granite? I don't know how much I did make.

Q. Well, how much would you—a matter of your own judgment now? A. Well, I think perhaps it would average a few inches on each side.

Q. Can you be any more definite than that? A. I don't know as I can just now.

Q. Would it be 6 inches on each side? A. I shouldn't think it would.

Q. Couldn't you tell me whether it would be 6 or 5 or 4 or 3 or 2 on each side? A. I don't know what width I did.

Q. I am asking for your estimate now.

The CHAIRMAN. If you were going to do the job now how would you do it?

The WITNESS. Oh, I guess I would allow about 6 inches perhaps.

Q. 6 inches on each side? A. No, I don't think it would be necessary.

Q. 3 inches on each side? A. Yes, I think so.

Q. Now for your block asphalt, how much more width would you allow for the paving than the width of the trench? A. I think I would allow the same.

Q. 3 inches on each side? A. I think so, yes.

Q. That is your judgment now? A. That is what I think.

Q. And for your tar pavement? A. Well, I have cut that pretty straight.

Q. Would that be an allowance of 3 inches on each side? A. I don't think it would be necessary.

Q. Would you make any allowance? A. I don't know as I made any allowance.

Q. Now, for your brick pavement, how much would you allow wider than the width of the trench on each side? A. Well, I presume it would take about the same as the blocks.

Q. 3 inches on each side? A. I think so.

Q. And for your macadam you would make no allowance? A. I don't think I made any allowance for the macadam—I don't know as I made any.

Q. Have you laid block asphalt and tar pavement and macadam pavement yourself? A. I have laid granite blocks.

Q. I was asking you now about three separate things. Have you ever had any experience— A. I have laid brick.

Q. Have you had any experience with block asphalt or in making tar pavement or macadam? A. I never laid any tar pavement.

Q. Any macadam? A. I don't know as I did.

Q. Any block asphalt? A. I don't think I did.

Re-direct examination by Mr. GREEN.

Q. You have put in your cost delivered of the iron pipe, the pipe and the cartage. Will you tell me how much you allowed per ton for delivery? A. Well, I think I called it about a dollar.

Q. Do you deliver iron pipe in Holyoke, and have you?

A. Yes, I am delivering now for the city of Holyoke about 20,000 tons.

Q. Is \$1 a ton delivered a fair allowance? A. Well, yes.

Mr. BROOKS. How is that competent?

The WITNESS. It is on the principal streets of Holyoke—it is a good allowance; I would like a job for two years.

Mr. GREEN. Never mind that.

